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An Assessment Of The Readiness Of King Fahad Medical City, Saudi Arabia, In Adopting Effective Online Staff Development Programs

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AN ASSESSMENT OF THE READINESS OF KING FAHAD MEDICAL CITY, SAUDI ARABIA, IN ADOPTING EFFECTIVE ONLINE STAFF DEVELOPMENT PROGRAMS

by

ADNAN D. ALWADIE

DISSERTATION

Submitted to the Graduate School

of Wayne State University,

Detroit, Michigan

in partial fulfillment of the requirements

for the degree of

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MAJOR: INSTRUCTIONAL TECHNOLOGY

Approved by:

Advisor

Date

DEDICATION

This work is dedicated to my parents, wife and children. Without your belief, support and prayers this work could not have been accomplished. It is also dedicated to all individuals who advised me and supported my decisions. Please accept my deepest appreciation.

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بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

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اتقدم بالشكر والعرفان للدكتور موسلي لمساهمته العظيمة ليس فقط في اتمام هذا البحث ولكن كذلك لمساهمته في تطور المهارات والصفات التي اكتسبتها خلال فترة دراسته. قد اكون مقصراً لو لم اقل ان الدكتور موسلي ساعدني كثيراً لاكتشاف قدراتي ومهاراتي التي استخدمتها مباشرة في حياتي اليومية وبالتالي كانت جزء من شخصيتي .

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CHAPTER 1 INTRODUCTION

King Fahad Medical City (KFMC) is a tertiary healthcare organization that provides specialized healthcare. KFMC accepts referred medical conditions that require specialized care, from hospitals around Saudi Arabia and provides the required diagnostic and therapeutic interventions at no cost to the patient. A broad spectrum of healthcare services related to general medicine, pediatrics, women's health and rehabilitation are provided at KFMC through four hospitals. In addition, advanced cardiac surgeries, oncology treatments and neurosurgeries are provided.

KFMC is centrally located in Riyadh, the capital city of Saudi Arabia, and is funded and operated by the Ministry of Health. More than 3000 nurses, physicians, allied health professionals and administrators work around the clock to operate this organization. Physicians, nurses and allied health professionals are sufficiently trained to provide the desired level of specialization. However, advancement in medicine mandates continuous development of knowledge and skills of the workforce in this organization.

As a tertiary healthcare organization, KFMC is committed to providing specialized care for patients who cannot be treated at secondary healthcare organizations. Therefore, advanced training and continuous skills development is essential for KFMC to fulfill its role. Medical knowledge and the use of technology in healthcare are continuously developing; therefore, continuous development of medical staff is critical for healthcare organizations to provide quality service. Continuous staff development programs are currently conducted at KFMC by means of face to face instruction.

Statement of the Problem

Healthcare organizations are ethically committed to providing the highest quality care possible and feasible to those who need it. The quality of healthcare is determined partially by

the knowledge and skills of healthcare providers (Campbell, 2007). In addition, Hager, Russell & Fletcher (2008) note that continuing education improves teamwork skills of healthcare professionals which, in turn, results in better communication and better quality of patient care.

Continuing education is required for licensure and credentialing in most healthcare professions (Hager, Russell & Fletcher, 2008). In addition, the nature of the healthcare profession mandates its providers to adopt the concept of life-long learning. Therefore, healthcare providers spend more years in continuing medical education (CME) than they do in their initial formal training (Hager et al., 2008). Since healthcare is rapidly advancing, in coordination with the fast pace of technology growth, healthcare organizations need to provide their staff with access to continuous education (Samuel, 2002; Braido et al., 2005; Laffel & Berwick 1993). Healthcare professionals usually obtain continuing education credits by attending traditional education in the form of medical conferences, workshops and face to face presentations (Davis, Davis & Bloch, 2008).

Professional Development (PD) focuses on the medical staff's acquisition of knowledge, skills and competence (Cathcart, 2008). In addition, professional development should be learner centered, include reflective inquiry on real case studies, involve a combination of lectures, discussion and case studies. Furthermore, transfer of knowledge and skills to the work context is important in professional development (Cathcart, 2008). Continuous professional development (CPD), on the other hand, is an extension to the continuous medical education in the medical field. In continuous medical education, physicians and allied health professionals are required to complete a set number of credit hours in order to maintain their licensure. The aim of CME is to update the knowledge and skills of medical personnel in their specialties (Stewart, 2008; Gerkin, Taylor & Weatherby, 2009). However, continuous professional development is concerned with

the outcomes of the required credit hours. In addition to certifying the acquisition of new knowledge, healthcare providers are also required to show competence in their work evident by employer appraisal, patients' feedback, clinical audits and other forms of assessments (Stewart, 2008). It can be said that the word "continuous" in continuous professional development is concerned with continuously raising the bar of competence for healthcare professionals.

In healthcare organizations, the resources allocated for training are limited due to the escalating cost of healthcare delivery (James, Timothy & Thomas, 2008; William & David, 2008; Dee, 2008). Furthermore, the scarcity of human resources in healthcare (Linda & Fiona, 2008; Francis, 2008) increases the demands for quality and efficient training where fewer resources can be utilized to achieve a good quality education.

King Fahad Medical City (KFMC) is a public, tertiary healthcare organization that receives patients' referrals from hospitals from all over the country. KFMC is composed of four hospitals that specialize in pediatrics, woman, rehabilitation and general care including cardiac and oncology. In addition, KFMC is an approved teaching institution for local medical and allied healthcare colleges. Continuing education is conducted at KFMC through traditional presentations and arrangement of national and international medical conferences. Despite the availability of technology and management support, other forms of education, such as online education, is rarely conducted in continuing staff development programs. When properly designed, online education can provide an effective alternative to traditional face to face medical education courses (Ryan et al., 2007; Francis, Mauriello, Phillips, Englehardt & Grayden, 2000).

The quality of online education is the result of efforts from all stakeholders involved in e-learning. Effective online programs cannot be achieved by simply transferring face to face content to electronic formats. It can be argued that quality online education can only be achieved

when the main stakeholders, specifically the administrators and the instructors, believe and have positive attitudes towards the delivery of education using computer technology. In addition, learners in online context have to be prepared to succeed in this new form of education. E-learners need to have the necessary technical and behavioral characteristics to be part of a successful online program.

The effectiveness of online education is determined by numerous indicators including the dropout rate of learners (Fisher & Baird, 2005). When the learners' dropout rate is low in online education, the program can be classified as an effective online program (Fisher & Baird, 2005). Furthermore, new research studies show that e-learners dropout due to many factors including their technical capabilities, experiences with online education and level of motivation (Curless, 2004; Steinbrown & Merideth, 2003; Fisher & Baird, 2005). Therefore, instructional designers must begin with a learner analysis in an effort to design a course incorporating the needs, abilities and entry behaviors of the learners (Lona, 2007). In addition, it is important to assess the need and readiness of learners of online programs before resources are allocated to develop and implement online education.

Learners in an online context are different from those in a traditional face to face environment. E-learners are usually working full time and have family commitments (Mihhailova, 2006; Maor & Volet, 2007). In addition, they expect the content of their studies to be related to their daily work (Maor & Volet, 2007). In order to succeed in online instruction, e-learners must be motivated to accept some responsibility for their own learning (Moore, 1973; Moore & Anderson, 2004). Furthermore, they should be able to use technology in communication and be able to participate actively in discussions.

Instructors in online education are a major determinant of the success of the experience. Their role in the online environment is to facilitate the learning by active participation, directing and guiding learners in the process (Youngblood, Trede & Corpo, 2001; Marks, Sibley & Arbaugh, 2005). Since the interaction between students and their instructor is limited in e-learning, instructors are expected to put more effort when facilitating online instruction. In addition, they should be competent in utilizing all available communication tools to interact with the learners (Mayzer & Dejong, 2003).

The infrastructure of the organization is critical to the ability to provide online education. The administration must advocate the provision of e-learning by helping other stakeholders overcome arising obstacles. In addition, administrators must closely observe and monitor for frequent obstacles that may affect the outcome of the experience. Obstacles such as instructors' workload and learners' readiness are some problems that may affect the quality of e-learning (Youngblood et al., 2001; Suanpang & Petocz, 2006; Whitmore, 2005). In addition, the administration should work toward achieving and maintaining the quality of online education by adhering to current standards and cooperating with other organizations that are experienced in online applications.

Purpose of the Study

The purpose of this research is four fold:

1. To assess the extent of readiness KFMC has regarding the use of effective online staff development programs.
2. To assess the administration's support and beliefs about e-learning.
3. To assess the instructors' skills and attitudes towards online education.

4. To discuss and analyze the employees' readiness for effective online education by assessing their access to technology, motivation towards participating in online education and their attitudes towards online education.

Research Questions

This research study investigates the attitudes of employees, instructors and administrators toward online education at KFMC. Their attitudes and skills are analyzed to determine the extent to which KFMC is ready to adopt online education programs.

This research was guided by the following questions:

1. What are the learners' strengths related to their readiness for online education?
2. What are the learners' weaknesses related to their readiness for online education?
3. What are the relationships between selected learners' demographic variables (occupation, age, gender, nationality, years of experience and educational level) and their online skills and relationships, motivation and internet discussion abilities?
4. What is the relationship between learners' past experiences with online education and their motivation towards e-learning?
5. What are the relationships between selected instructors' demographic variables (age, gender, years of teaching experience, and country of graduation) and their attitudes toward using online continuing education at KFMC?
6. What are the attitudes of the administration toward the provision of online continuing education at KFMC?
7. What are the relationships between the level of the administration and their attitudes toward using online continuing education at KFMC?

Definition of Terms

E-learning

Since the development and extensive use of the internet, many types of distance learning have emerged such as e-learning, online learning, web-based training and distributed learning (Holden & Westfall, 2006). These different terms seem to share the major components of distance learning with the addition of technology to the equation. E-learning is used interchangeably with the term online education and seems to have emerged from the popularity of other terms such as e-commerce and e-mail (Holden & Westfall, 2006; Moore & Anderson, 2004). Online education is defined by the American Society for Training and Development (ASTD) as the "delivery of content via the Internet, intranet-extranet, audio and videotape, satellite broadcast, interactive TV, and CD-ROM," (Holden & Westfall, 2006, p. 2). E-learning was also defined "as the systematic use of networked multimedia computer technologies to empower learners, improve learning, connect learners to people and resources supportive of their needs, and to integrate learning with performance and individual with organizational goals" (Moore & Anderson, 2004, p. 350).

Effectiveness

The effectiveness of online education is enhanced by the commitment of all stakeholders, capabilities of technologies and the creativity of the designers. Furthermore, many factors were found to influence the effectiveness of online education. These factors may be related to the learner, the instructor or the educational organization. Effectiveness is used in this research to refer to the quality of the e-learning.

The word quality is defined as "the totality of characteristics of an entity that bear on its ability to satisfy stated and implied needs" (Eysenbach & Diepgen, 1998, p. 1496). Quality of

online education differs depending on who is defining it. However, the issue of quality in internet-based education is looked at by the degree to which internet-based courses adhere to best practices or to benchmarks (Galloway, 2007; Phipps & Merisotis, 2000; Wang, 2006). The Institute of Higher Education (2000) identified twenty-four benchmarks that are essential to assure quality internet-based instruction. These benchmarks were categorized into seven categories: 1) institutional support, 2) course development, 3) teaching and learning, 4) course structure, 5) student support, 6) faculty support, and 7) evaluation and assessment (Phipps & Merisotis, 2000).

Learner's Readiness

Learner's readiness can be defined as "the degree to which learners, in both management education and training, have prerequisite cognitive, emotive-attitudinal, and behavioral attributes, skills and orientations that will prepare them for involvement in active, experiential learning contexts" (Maddox, Forte & Boozer, 2000).

Staff Development

Staff development is the enhancement of skills and knowledge that employees require to perform their work efficiently. Staff development is also concerned with the performance of employees at their work (Knapp & Byers, 2008). Therefore, it involves the assessment of the outcomes at the work level. Developing staff is a way to enrich their experience where they can manage more activities and require less supervision (Hartman, Abromitis, Kuller, & Epstein, 2005). In addition, staff development aims to improve communication among employees (Hartman et al., 2005). Staff development activities can then be viewed as systematic methods that are planned to enhance the employees' communication in the workplace, provide them with

up-to-date knowledge and skills that improve the quality of service or product and evaluate the outcomes of these activities by assessing the performance of employees at work.

Significance of the Study

This research was conducted to investigate the possibility of embracing a new paradigm of education at KFMC specifically and in the Saudi healthcare system in general. The result of such research sheds light on promising opportunities such as e-learning in highly demanding and critical organizations. The results of this research provide scientific information that will help leaders in Saudi healthcare organizations allocate their financial resources efficiently. Furthermore, the results of this research can be generalized to most tertiary healthcare organizations in the country since human resources in these organizations share the same characteristics as that of KFMC's employees.

Chapter Summary

Healthcare organizations spend part of their budgets to improve the knowledge, skills and competencies of their employees. However, most healthcare organizations in Saudi Arabia utilizes traditional methods of medical and administrative education. Since the delivery of healthcare in the country is heavily dependent on the government funding, using online education becomes an efficient method that ought to be investigated. This research assesses the readiness of KFMC's employees, administrators and instructors to utilize online education.

This chapter has introduced the problem statement, the purpose of this study, the questions that guide the research, definitions of the terms that are used in this research and the significance of this research. Chapter two considers the review of related literature.

CHAPTER 2 LITERATURE REVIEW

Staff Development in Healthcare

Most organizations strive to provide the best possible services or products to their customers. To achieve this goal, organizations spend part of their budget to develop the skills of their employees to meet the best practices in their field (Hamilton, McLaren & Mulhall, 2007; Clark et al., 2004). In addition, employees, as adults, must accept some responsibility for their own development at their work (Gerkin et al., 2009).

After gaining the knowledge, skills and practice in the medical and allied health colleges, medical professionals are awarded the certificates and licensure that allow them to work in their designated professions. However, medical knowledge is rapidly increasing and medical professionals are required to keep their medical knowledge and skills up-to-date (Stewart, 2008) (Gerkin et al., 2009). Continuous Medical Education (CME) is the method that is usually used to update the knowledge and skills of medical staff (Stewart, 2008). Medical professionals attend sessions of presentations, seminars, workshops or symposia to obtain credit hours that are required to maintain licensure. However, the transfer of knowledge and skills to the clinical setting is not actually evaluated.

Medical knowledge is being produced at a fast pace and medical professionals are required to keep their knowledge and skills up-to-date in order to provide quality care. With the limited time available for medical professionals at work, this task becomes challenging for both the organization and the instructors (Harton, 2007). In addition, clinical instructors are required to design the educational sessions based on a diverse set of employees who possess different learning styles and have different working schedules (Harton, 2007; Knapp & Byers, 2008). Furthermore, healthcare organizations are faced with more constraints on the training budgets

(Loveder, 2005). Traditional professional development techniques such as conferences, lectures and case discussions become challenging when combined with the scarcity of resources and the fast paced knowledge development (Knapp & Byers, 2008). However, the advancement of technology provides a convenient alternative to resolve these challenges (Knapp & Byers, 2008).

The use of online technologies can provide customized, timely and accessible staff development programs to medical professionals any time (Gerkin et al., 2009; Loveder, 2005). In addition to customization, staff development programs can be divided into sub sections that will enable the learner to take smaller parts of the program at the time available and facilitate the evaluation of the learner more accurately (Loveder, 2005).

The use of online education in healthcare is not without drawbacks. Insufficient computer skills are among the most critical barriers to the use of online education (Gerkin et al., 2009). Another drawback is that some more-experienced learners prefer the traditional educational methods (Knapp & Byers, 2008). In addition, the culture of learners is an important factor to accept or reject online education (Knapp & Byers, 2008). Furthermore, poorly designed online education programs negatively affect the way online education is received (Knapp & Byers, 2008).

Online Education

History

Distance education (DE) is more than 100 years old (Bruce, 1999). Nevertheless, it is still growing and expanding to reach and connect different parts of the world (May & Short, 2003). In the United States, the trend of classes offered online is growing in colleges and universities (May & Short, 2003). Furthermore, the market demand for e-learning is promising and suggests that e-learning has a bright future.

Formal DE was first conducted in 1840 when Isaac Pitman began teaching shorthand by correspondence from the English City of Bath (Williams, Nicholas & Gunter, 2005). In the mid 1800s, the University of London established its correspondence college followed by other private correspondence colleges in the late 1880s (Williams et al., 2005). Correspondence courses started in the United States in the early 1900s and the State University of Iowa started to experiment with the transmission of courses in 1932. By 1939, the university has transmitted around 400 programs. From 1930s to 1970s Wisconsin's School of the Air was broadcasting ten programs per week to different campuses. In the United Kingdom, the Department of Education used radio to provide distance instruction in the mid 1920s which opened the door to 10,000 schools to use the BBC radio programs to support their traditional classrooms (Williams et al., 2005). In the 1960's, the labor government in the UK approved the setting of the Open University (formerly named University of the Air) which became UK's largest university and a model that was adopted by many countries (Williams et al., 2005; <http://www.open.ac.uk/about/ou/p3.shtml>).

In the United States, television, satellite, telephone and early computer programs were first used in education in the early 70's at the University of Wisconsin – Madison by Charles Wedemeyer who developed a complete DE system called the Articulated Instructional Media (AIM) (Williams et al., 2005; Moore & Shin, 2000). In the 1970s when satellites were first used for television broadcasting, the idea of teleconferencing started to appear and an increased use of audio, video recordings, teleconferencing and interactive telecommunication continued through the 1980s. Personal computers and the development of CD-ROMS facilitated the distribution of instruction and the interaction with students at a distance (Williams et al., 2005).

Some learners may see DE as a solution to their learning barriers. Besides its clear benefits such as overcoming the distance, cost, time, disabilities and other responsibilities of learners, e-learning, as a self paced form of DE, is viewed as a perfect fit for those who find it difficult to stay focused for the duration of class sessions in traditional education (Burns, 2005). E-learning can also be used by organizations to train their staff when they have spare time (referred to as slack time) between projects (Burns, 2005).

Initially e-learning was not accepted as a standalone replacement for face to face education (Burns, 2005). Furthermore, when it was accepted, it was not viewed as a competitive method to traditional education. Today, significant bodies of research, conducted to compare the two, reveal that educational outcomes of e-learning are not significantly different from that of traditional education (Rovai, Ponton, Wighting & Baker, 2007; May & Short, 2003).

The Effectiveness of Online Education

To be effective, the design of online programs should be guided by learning and instructional theories. In 1983, Moore established the transactional theory which explained the relationship between three important aspects that must be taken into consideration when designing a distance education course or instruction (Bobak, Cassarino & Finley, 2004; Moore, 1973). These three areas are the learner's autonomy, the dialog and the structure (Bobak et al, 2004). Moore defines learner's autonomy as "The will and ability to exercise powers of learning, to overcome obstacles for oneself, to try to do difficult learning tasks, and to resist coercion" (Moore, 1973, p. 667). Dialog is the type of messages communicated from the instructor to the learner in which the learner is expected to respond. Structure is the aspects of the design of the course or instruction based on the learner's needs. Moreover, Moore (1973) hypothesized that learner must accept some responsibility in the learning process. In addition, he emphasized that

there should be a balance between dialog, structure and learner's autonomy to arrive at a well structured instruction for distance education.

The type of knowledge to be learned is another important aspect of designing online programs (Holden & Westfall, 2006). For lower cognitive levels, the asynchronous type of online learning is an acceptable design to be used. On the other hand, if the level of cognition is high, such as programs that require synthesis, analysis and evaluation, the synchronous type is more appropriate because these programs require more interaction (Holden & Westfall, 2006). Learner analysis, continuous feedback and high levels of interaction, that are daily activities in face to face context, are not the same in an online context. Therefore, the content, feedback and other materials in online education should be provided to learners in multiple formats such as audio, video and text. However, the technical properties of these formats should be selected carefully (Manathunga, 2002).

The symmetry of the program is also an important aspect of online instructional design. Symmetrical learning is achieved when the direction of flow of interaction is balanced between the learner and the instructor. Asymmetrical learning refers to imbalance in the flow of interaction between the learner and the instructor (Holden & Westfall, 2006). For the instruction to be effective, synchrony and symmetry are critical factors that should be balanced based on the available resources, the type of content and learners. When these features about the program are known it can also help the designer select the appropriate media for delivery.

Evaluating the Effectiveness of Online Programs

Whether the instruction is online or face to face, evaluation is a critical component of the design that should be considered. However, when evaluating an online course the views of both the learner and the instructor should be assessed differently since they are separated in space and

time (Manathunga, 2002). The evaluation can be conducted using an online survey. However, when the survey is used, it is important to ask questions that will reflect the effectiveness of the current course and at the same time guide the development of current and future courses.

Many models have been developed to evaluate the effectiveness of traditional face to face educational programs (e.g. Achtemeier, 2003; Roffe, 2002). However, due to the differences between traditional and online environments, these models must be modified before they can be used to evaluate online programs (Achtemeier, 2003).

The grade results achieved by learners in an online course can be used as a measure of the effectiveness of the course (Manathunga, 2002). Furthermore, learners' satisfaction is an important aspect that should be evaluated. The level of difficulty when relating pictures, text, audio and video is a measure that can tell the designer about the level of interaction between the learner and the content. Since the medium of delivery is the technology, it is critical to assess both the technical capabilities of learners and instructors as well as the technical support provided to them. This can be assessed in many ways such as survey questions, analysis of email messages, discussions forums and the completion of interactive web based exercises (Manathunga, 2002).

Design related. In the online arena, content design becomes more critical simply because when the content is released to the learner, the designer or instructor has very little control over the perception of learners about it (Martens, Bastiaens & Kirschner, 2007). When designing online instruction, designers need to be mindful that the learner and the instructor are separated in time and space and that the interaction (learner-instructor, learner-learner and learner-content) is different (Ponzurick, France & Logar, 2000). Furthermore, the design of e-learning (online) is challenging and critical to the success of instruction. Roffe (2002) thinks that the "e" in e-

learning means more than just “electronic”; instead it is “the engagement of the learner, the enhancement of the learning, the experience of exploration, the ease of use, the empowerment of the learner to control the learning schedule and the execution of the learning program” (Roffe, 2002, p. 41).

When evaluating online instruction, there are some design related factors that may be evaluated to reflect the effectiveness of the program. The ease and friendliness of language are important to improve the attractiveness of instruction and engagement of learners in the instruction (Manathunga, 2002). The clarity and details of guidelines are also important to inform learners of what is expected from them and what they should expect in return (Youngblood et al., 2001). It is also recommended to emphasize team work, create discussion forums and encourage learners to participate and to respond to other learners’ contributions and build on them instead of responding to the instructor only (Manathunga, 2002; Youngblood et al., 2001). To match learners’ preferences, lectures should be constructed in multiple formats (power point presentations, embedded links, text, streaming technologies, audio) and learners should have the opportunity to select the format that suits them (Marks et al., 2005). In addition, uploaded instructional files (videos or audios) should be reasonably short and small in size (Manathunga, 2002). Furthermore, a series of exercises should also be provided to learners while they are viewing the instruction (Manathunga, 2002). The designer should focus on the most frequently utilized formats and features of the instruction and try to modify and improve them accordingly (Cerny & Heines, 2001). Furthermore, the designer should start with activities that encourage interaction and facilitate community between learners (Achtemeier, 2003). In addition, the assignments in online context should be designed to accommodate meaningful peer to peer interaction (Achtemeier, 2003). When learners are viewing instruction, it is helpful to

have the course outline on the monitor to help them organize their thoughts and be able to follow along with the instruction (Mayzer & Dejong, 2003). In addition, when an online program takes place between two different locations, where learners are grouped in one location and the instructor in the other, it is helpful to have a facilitator in each site ready with questions before the synchronous instruction begins (Mayzer & Dejong, 2003).

Learners should be given the chance to criticize the instruction and share their point of views in separately constructed forums (Manathunga, 2002). As with face to face instruction, evaluation is critical and should be provided by learners. However, the assessment of online programs should be validated and be specifically designed to uniquely evaluate each instruction and not used as an assessment tool to evaluate all instructions (Marks et al., 2005). These assessment tools should also include the learning outcome achieved by the online experience compared to what the learner expected from such experience (Gilroy, Long, Rangelcroft & Tricker, 2001).

Interaction related. Interaction is a critical component to learning including online education (Marks et al., 2005). The importance of interaction in learning is not new and was mentioned 30 years B.C. by Lao-Tzu, a Chinese philosopher, who stated that “If you tell me, I will listen. If you show me, I will see. If you let me experience, I will learn.” (Burns, 2005, p. 51). Some e-learners start their online learning experience with high motivation level and as their online course progresses, without the traditional daily face to face interaction, their motivation tends to fade and some of them eventually dropout of the course (Curless, 2004).

The level of interaction is critical to e-learning and as a matter of fact is one of the determinants of the effectiveness of online education (Muilenburg & Berge, 2005; O'Dwyer, Carey & Kleiman, 2007; Achtemeier, 2003). Along with course structure, and learners'

autonomy, interaction was described by Moore (1991) as a major determinant of successful online education (Huang, 2002). In addition, Moore identified three different types of interactions in online learning. The three types were learner-learner interaction, learner-instructor interaction and learner-content interaction (Huang, 2002). A few years later, learner-technical interface was added as a fourth type of interaction (Huang, 2002).

Learners may interact with each other as a way to gain support during their learning experience (Lao & Gonzales, 2005). Nevertheless, this type of interaction is also important to the learning process and was found to be the most important type of interaction, that adds to learning, when workplace learners were surveyed (Maor & Volet, 2007; Marks et al., 2005). Furthermore, learner-instructor interaction was also found to be an important predictor of the quality of online courses (Marks et al., 2005). The third type of interaction is the learner-content interaction which emphasizes the role of instructional designers. This type of interaction is determined by the extent to which the content is directed and designed based on the learner's needs, preferences and capabilities (Moore & Anderson, 2004).

Technology is the only method available in e-learning to provide interaction between learners and instructors. The rapid development of technology has added more features which improved the level of interaction in e-learning (Liao, 2006). Furthermore, some authors suggested that new technologies are capable of providing more multisensory experiences which can be as good as or better than traditional classroom lectures (Marks et al., 2005). Utilizing new features of technology to improve interaction is determined by many issues including the instructor's attitude towards technology. The instructor's positive attitudes towards technology, teaching style using technology and control over technology were directly related to the effectiveness of learning as perceived by e-learners (May & Short, 2003).

The psychological separation between learner and instructor is different from the geographical separation as discussed by Moore's transactional theory. In transactional theory, the three determinants of transactional distance are the level of dialog, the level of structure and the level of learner's autonomy (Moore & Anderson, 2004). Transactional theory stresses that as the level of dialog (interaction) increases, transactional distance decreases (Moore & Anderson, 2004). In addition, interaction should not be assessed only by how it occurs, but also by the frequency of occurrence, timeliness, and type of interaction (elaboration, questions, and so on) (Moore & Anderson, 2004; O'Dwyer et al., 2007).

Instructional designers can use multiple strategies to enhance interaction in online instruction and, therefore, improve its learning outcomes. Strategies such as asking learners to present their work to the rest of the class tend to increase the level of learner to learner interaction (Achtemeier, 2003). An orientation to the online class should also be provided at least 2 months before the class begins in order to get students prepared for what to expect and for the instructors to have time to revise and improve the syllabus and the content based on the learner's analysis if required (Curless, 2004; Steinbrown & Merideth, 2003). This method is also used to improve the content-learner interaction and to inform learners about the expected workload (Steinbrown & Merideth, 2003). To assure that learners read the syllabus, it may be beneficial to add an early quiz that asks about facts that can be found in the syllabus (Curless, 2004). At the beginning of class, the learners may be asked to post personal or professional background about themselves as an introduction to the rest of the class (Curless, 2004; Gilroy et al., 2001). This step not only gets learners to know each other, but also helps them to form groups based on interests, professional background or other means that learners may share. Many other strategies that help improve interaction can be embedded in online courses' design including group

projects and discussions (Fisher & Baird, 2005; Iwasiw et al., 2000), allowing time for off topic chats (Curless, 2004), peer-review assignments, self evaluation, and so on. Sufficient and timely feedback from the instructor to learners is among the most critical components of efficient online instruction (Achteemeier, 2003; Mayzer & Dejong, 2003; Curless, 2004; Steinbrown & Merideth, 2003; May & Short, 2003). Others have also suggested that the instructor's feedback should include examples and non-examples (Curless, 2004).

Technical related. Technology is the backbone of the e-learning process because learners and instructors will be communicating and interacting using it. Therefore, learners must be at least literate in using basic technology features such as e-mails and browsing the internet to have a higher chance of succeeding in online context (Huang, 2002). Research has shown that learners who were not experienced in learning technologies were found to have difficulties succeeding in online education (Muilenburg & Berge, 2005). Furthermore, e-learners who felt confident and comfortable using learning technologies were found to have fewer barriers in social interaction, motivation and support for studies than those who were not using technologies (Muilenburg & Berge, 2005).

The software that is used in online education must be reliable, easy to learn and use by both the learner and the instructor (Youngblood et al., 2001; Hawkes, 1996). Furthermore, technical support must be available to both the learner and the instructor. Besides being more entertaining to some learners, learning by technologies provided them with a positive attitude towards e-learning and their chances of registering online courses in the future increases (Marks et al., 2005). However, technologies that have technical problems (even minor ones) may force learners to develop negative attitude towards technologies and prevent them from thinking about taking future online courses (Cerny & Heines, 2001; Mayzer & Dejong, 2003). Technology in

online education may as well be the source of the failure or decrease effectiveness. When troubles such as low transmission speed and operability issues (Hawkes, 1996), technical or connectivity problems (Suanpang & Petocz, 2006) occur, learners' satisfaction and learning outcomes are compromised (Hawkes, 1996). Designers should also be careful not to use the power of technology to overload the sensory cognition of learners (Marks et al., 2005).

Barriers to the Diffusion of Online Education in Healthcare

In this section, the diffusion of innovation model developed by Rogers in 1962 will be reviewed. In addition, the barriers to the diffusion of online education in healthcare will also be discussed. The discussion of barriers to diffusion of online education will be conducted as it relates to the main stakeholders of online education, specifically, the learner, the instructor and the administrator.

The Diffusion of Innovation Model

Bryce Ryan who was a professor at the Iowa State University in 1941 obtained a fund to study the hybrid corn seeds adopting by Iowa farmers. Neal C. Gross, who was a graduate student in rural sociology at that time, worked with Ryan on this project and conducted the interviews with farmers personally (Rogers, 2004). As a result of this research, Gross used the data for his master's thesis. Ryan and Gross published the results of their research in *Rural Sociology* in 1943 which became the most widely cited reference in the diffusion of innovation theory studies (Rogers, 2004). Their research results showed that it took farmers 13 years to adopt the hybrid corn seed. In 1962, Rogers published the first edition of his book *Diffusion of Innovation* in which he argued for a general diffusion of innovation model (Rogers, 2004). Since the publication of that book, thousands of researches in different disciplines used the diffusion of innovation model and its use is not declining today (Rogers, 2004).

Diffusion of new ideas into an organization go through three stages before they are institutionalized (Sanson-Fisher, 2004). When organizations agree to acquire a new idea they have actually adopted it. That organization will implement and evaluate the new idea before it is institutionalized and becomes an integrated part of everyday business process (Murray, 2009).

Rogers defined diffusion as “the process through which an innovation, defined as an idea perceived as new, spreads via certain communication channels over time among the members of a social system (Rogers, 2004, p 13). Therefore, in order for an innovation to diffuse it requires communication channels, time and a social system (Sanson-Fisher, 2004). Rogers also defined innovation as “an idea, practice, or object that is perceived as new by an individual or other unit of adoption” (Rogers, 2004, p. 12). Rogers states that the adoption of a new idea is determined by five elements and each of them will partially determine the adoption (Sanson-Fisher, 2004). The five elements are relative advantage, compatibility, complexity, trialability and observability (Sanson-Fisher, 2004).

Relative advantage is defined as “the degree to which an innovation is perceived as better than the idea it supersedes” (Sanson-Fisher, 2004, p 55). Online education has proven to be effective and efficient compared to traditional face to face education (Roussas, 2006; Rovai et al., 2007; May & Short, 2003). It improves learners’ access to education (Burns, 2005) because it eliminates the time and space boundaries between learners and instructors (Bruce, 1999). In healthcare, continuous education is essential to improve quality of care (Stewart, 2008) but, the resources allocated for training are limited (Clark et al., 2004). Therefore, online education in healthcare becomes an advantage that needs to be examined closely.

Rogers defined compatibility as “a measure of the degree to which an innovation is perceived as being compatible with existing values, past experiences, and the needs of potential

adopters” (Sanson-Fisher, 2004, p. 55). Therefore, a close analysis of the perceptions and attitudes of healthcare providers, instructors and administrators is important before deciding to implement online education in healthcare organizations. The adoption of previous technologies at King Fahad Medical City (KFMC), such as the electronic medical record systems, may have positively affected the learners’ attitudes towards using technology. However, investigating learners’ and instructors’ technical skills and learning behaviors provided an assessment of the compatibility of online education with their existing skills and behaviors.

Complexity is “a measure of the degree to which an innovation is perceived as difficult to understand and use” (Sanson-Fisher, 2004, p. 55). Therefore, how learners and instructors perceive the use of online education is important to assess in order to measure the complexity of online education. KFMC has transformed to a paperless organization where all formal communications take place via the intranet network. In addition, all medical staff were trained to use the electronic medical record system for their daily work. These steps are expected to reduce the complexity of online education at KFMC as it is perceived by employees. In addition, the use of the internet in Saudi Arabia increased by 1000% from 2000 to 2005 (Economist Intelligence Unit, 2006) which indicate positive attitudes and perceptions towards using online education.

In order to increase the chance of diffusion, an innovation should be trialable. Trialability is defined by Rogers as “the degree to which the innovation may be trialled and modified” (Sanson-Fisher, 2004, p. 55). Trialability promotes the faith about the innovation and that its implementation is possible (Sanson-Fisher, 2004). Trialability also helps formatively evaluate the implementation in order to improve it so that it matches the clients’ needs and capacity (Murray, 2009). In healthcare, computer –based simulations are used to educate both medical and administrative personnel (Eldabi, Paul & Young, 2007). In addition, studies about

simulations in the medical field increased gradually from 1973 to 1997, but increased dramatically after year 2000 (Eldabi, Paul & Young, 2007).

Observability can be defined as “the degree to which the results of the innovation are visible to others” (Sanson-Fisher, 2004, p. 56). Rogers argues that innovations that are obvious to others have a better chance of being accepted and diffused (Sanson-Fisher, 2004). In addition, when a new idea is presented by a charismatic person, there is a greater chance that the idea would be adopted by others. Evaluation is an essential element of instructional design which mainly provides information about the degree to which an instruction meets the pre set objectives. In addition, evaluation provides important information that helps instructional designers to continuously improve the instruction. Furthermore, the process of online instructions’ evaluation requires less efforts from the designer since the required evaluative information can be integrated into the electronic design of the instruction.

Learners’ Barriers

As the center of the learning process, learners may find it difficult to engage in online education due to personal factors, course structure factors, social factors or other factors. For organizations to be able to best utilize existing online education technologies, design online courses or improve existing ones, it is essential to identify and understand the barriers to e-learning and ways to overcome them as seen by the learner.

Learners who were enrolled in healthcare online courses reported that factors such as learners’ obligation toward family or work, degree of social support, technical problems and attitudes were barriers to completion (Williams et al., 2005). Solution to some of these problems may be obtained through the utilization of on demand video materials and interactive digital TV (Whitmore, 2005). A study compared different delivery methods for continued education (CE)

for nurses and found that the vast majority of nurses used the traditional in-person conferences because they prefer the in-person method and also because they lack the technical knowledge (Charles & Mamary, 2002; Geiger et al. 2002).

An educational program for nursing administration was conducted between a Canadian and a Norwegian University and factors such as access to technology, time zone differences and cultural differences were seen as barriers to complete the online course (Iwasiw et al., 2000). Iwasiw et al (2000) reported that Norwegian learners tried to overcome the access to the technology problem by creating a group discussion and participating as a group collaborative work which was seen as convenient, but limiting the individual's degree of participation. In addition, those learners in both countries worked outside their regular working times in order to overcome the time differences between the two countries.

It may be estimated that the achievement of students in online programs is less than those of traditional programs because traditional students have better access to resources and have better interaction with their instructors. However, a study conducted to compare the outcomes of an online nursing program to a traditional one, found that the quality of the online program was at least the same if not better than the traditional program when examining the GPA of graduates and their ability to transfer knowledge and skills to their performance context (Shomaker & Fairbanks, 1997). Furthermore, some learners reported that not presenting organized or complete materials at the beginning of the instruction was found to be a barrier in the healthcare because learners expect to be able to utilize the skills learned immediately and thus the faculty should organize and present the complete materials upfront (Ostrow & Ann, 2005).

The graduate level nursing students who were enrolled in an online course via web cast, reported that factors such as lack of human interaction, unavailability of high speed internet

connections, not feeling comfortable in asking questions in the educational environment were barriers to their online experience (DiMaria-Ghalili, 2005). In addition, lack of socialization was seen as a limitation to online programs because socialization was viewed by learners as a necessary factor to build attitude and skills to professionalism in the healthcare practice (Mancuso-Murphy, 2007).

Some learners reported that sometimes they needed to talk to the professor after class and that is not feasible in online courses. In addition, e-learners cannot drive to campus to see the faculty during office hours. Other barriers include the timely feedback where learners expect their instructor to respond to their inquiries immediately and at anytime. Since instructors cannot be available to respond at anytime, this obstacle may be resolved by setting online office hours at which learners can receive immediate responses from their instructors (Perreault, Waldman & Zaho, 2002).

Instructors' Barriers

Facilitating online programs is a challenging task that instructors are expected to accomplish. To achieve their goal, instructors will need to be prepared and they need to have the support of the administration, the instructional designers and the technical support.

In online nursing programs, instructors viewed other work obligations and teaching workload as barriers to the use of interactive digital television. In addition, these barriers have limited instructors' participation in the production of more online courses (Whitmore, 2005; Barker, 2003). Whitmore (2005) stated that the number of nursing faculty who participated in the production of digital television courses, decreased in two years from 25 to only 2 because they found it difficult to change from nursing faculty to a television producer. These comments

may be related to the lack of support from specialized people such as instructional designers and technical support.

Instructors' attitudes towards online education are major determinants of their participation. Lack of faculty's enthusiasm about online education was seen as a barrier to participation in online programs (Barker, 2003). Barker (2003) states that barriers also include altered role of the instructor, lack of technical and administrative support and reduced course quality. To overcome these barriers, Barker suggests setting reasonable class size, assisting the faculty to recognize the change from "providing teaching" to "facilitating learning", setting up a help desk for students and faculty, using instructional design consultants and rewarding innovation.

Faculties find engaging in an online course or program challenging and time consuming because they have to master other skills such as designing the course and troubleshooting technical problems (Ostrow & Ann, 2005). However, these obstacles can be overcome by the assistance of information systems experts and instructional designers. On the contrary, some faculty members found learning new skills challenging and interesting. In addition, some employees stated that the new experience had increased their level of satisfaction with their jobs.

Information literacy and computer skills proficiency are critical factors that determine the success of the online experience. Therefore, lack of these skills will make it very difficult for faculty members to conduct a good online course or program (Billings, 1999). In addition, the inability to see the faces of learners was seen as a barrier to some faculty members because they cannot determine how much information they need to provide (Diekelmann, 2000). Furthermore, Diekelmann (2000) stated that some instructors who conduct synchronous online sessions may not be able to control the learning context because learners may be doing something else while

the instructor is presenting. However, such barriers may be overcome by proper course design. Online courses should be engaging and student centered to overcome these obstacles (Moore & Anderson, 2004).

Administrators' Barriers

Administrators' support is critical to the success of online education. It can be argued that when the administration has positive attitudes towards online education, the experience becomes rewarding and successful for the instructor and the learner.

Administrative support to faculty who create content for digital television coursework was seen as a barrier to the development of online courses (Whitmore, 2005; Billings, 1999; Lee, 2002). Therefore, the administration should review the workload of instructors and balance the load of traditional education with that of online education. Furthermore, administrators should engage instructors and technical support in specific decisions such as setting the goals, selecting the conceptual framework, designing work processes and deciding on evaluation methods (Iwasiw, et. al., 2000). Iwasiw, et. al (2000) added that the decision of language and technology to be used are also critical elements.

Coordinating between different resources is an essential part of the educational process. Administration of online programs is a key element in the success of the whole program. Major responsibilities of the administration are to collaboratively design and plan programs' layout, empower faculty, assure continuous support of the program with resources and also work as an advocate and supporter of the program. Organizational support is seen as a crucial element to provide quality DE as indicated by several professional agencies such as the Institute for Higher Education Policy, North Central Association Commission on Institutions of Higher Education, and American Council on Education (Yoon, 2003). Furthermore, administrative related issues

such as ineffective administrative structure, organizational change, quality, legal issues and evaluation effectiveness were found to be barriers to success in DE (Muilenburg and Berge, 2005).

E-learning Readiness

Learners' Readiness

Learners in the online context are different from those in traditional classrooms. Learners usually choose to enroll in an online course due to the flexibility of time and space and sometimes because of the relatively low cost when compared to traditional face to face courses (Hamzaee, 2005; Suanpang & Petocz, 2006). Typically, e-learners are adults, usually working full time and often with family commitments (Mihhailova, 2006; Maor & Volet, 2007). In addition, e-learners are usually professionals who expect the content of their study to be directly related to their field and daily professional practice (Maor & Volet, 2007). These characteristics suggest that e-learners must have a good deal of self control and autonomy (Moore & Anderson, 2004).

Learners' Motivation to E-learn

Dropout is one of the major problems of DE and is usually looked at as a quality measure of the success of an educational program (Fisher & Baird, 2005). Research found that lack of finance, lack of time, the isolation of the distance learner, lack of self-discipline, lack of motivation, accelerated pace of the course, competing responsibilities and technical issues were possible reasons for increased dropout rates in DE (Curless, 2004; Steinbrown & Merideth, 2003; Fisher & Baird, 2005).

Motivation is an important determinant in education. It can be argued that when people are having fun while learning, they will learn more (Burns, 2005; Rovai et al., 2007). E-learners

usually start their online experience with some degree of enthusiasm; nevertheless, their interest declines as their online course goes on without the daily face to face interaction in the traditional classroom and eventually some learners drop the class (Curless, 2004). Being prepared to enroll in an online course is a critical element in the success of the experience and was shown to decrease the dropout rate (Maor & Volet, 2007). Motivation was also found to be one of the determinants of dropout rate in online learning (Curless, 2004). In other words, learners who lack finance, time, self-discipline and motivation are more likely to drop online courses (Curless, 2004).

Motivation to participate in an educational experience can be intrinsic, arising from within the learner, or extrinsic, exerted upon the learner from the surrounding environment. Intrinsic motivation is “doing an activity for the inherent satisfaction of the activity itself” (Martens et al., 2007, p. 82). Intrinsically motivated learners are more explorative, reflective, self-regulated and exhibit the ability of deep-level processing (Martens et al., 2007). Besides being motivated to learn, intrinsically motivated learners usually achieve higher results (Liao, 2006). Factors such as self-confidence, relevance of the content and degree of attention, were shown to be key factors to intrinsic motivation (May & Short, 2003).

On the contrary, extrinsic motivation is “the performance of an activity in order to attain some separable outcome, such as a diploma or license, or to satisfy external needs (such as promotion or pay raise), workplace requirements, praise, family expectations, or other rewards (Rovai et al., 2007, p. 415). Learners driven by this type of motivation usually focus on meeting the course’s expectations as stated in the syllabus, achieve an external reward such as gaining a good grade point, or avoiding punishment (May & Short, 2003). External motivators were

classified by Herzberg (1966) as factors that play a major role in reducing job dissatisfaction, but may not influence job satisfaction (Chyung & Vachon, 2005).

Intrinsic motivation is a significant predictor of persistence and achievement in online education (Rovai et al., 2007). When compared with face to face learners, online learners exhibit a significantly higher degree of intrinsic motivation (Rovai et al., 2007). Knowing that e-learners usually exhibit higher degree of autonomy and that they expect the learning content to be relevant and related to their daily professional practice, intrinsic motivation is more critical to them than the extrinsic type (May & Short, 2003). This claim is supported by the cognitive evaluation theory which states that “intrinsic motivation is maximized when individuals feel competent and self-determining in dealing with their environment” (Rovai et al., 2007, p. 415). The dichotomous framework developed by Herzberg in 1966, also suggests that intrinsic motivation (also referred to as natural reward) influences satisfaction more than does extrinsic motivation (Chyung & Vachon, 2005). Another theory that supports the importance of intrinsic motivation is the flow theory which is defined as “the state in which people are so intensely involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it.” (Liao, 2006, p 47). This theory suggests that “the four characteristics of core flow experience are feeling in control, focusing attention on the activity, feeling curiosity, and having intrinsic interest” (Liao, 2006, p. 47). In 1985, intrinsic motivation was also seen as a critical component by Deci and Ryan who developed the cognitive evaluation theory, which states that “intrinsic motivation is maximized when individuals feel competent and self-determining in dealing with their environment” (Rovai et al., 2007, p. 415). Furthermore, intrinsic motivation was found to be important for transfer of knowledge and skills to the performance context (Murphy, Cross & McGuire, 2006).

Instructors' Readiness

Instructors in online context can be a vital determinant of the success of the online educational experience for learners. By understanding that online instruction should be a learner-centered experience (Lao & Gonzales, 2005) and that e-learners must have great level of autonomy (Huang, 2002; Fisher & Baird, 2005; Moore & Anderson, 2004), instructors can focus on encouraging learners to be actively involved in discussions and discourage any nonproductive or disruptive behaviors (Youngblood et al., 2001). In addition, instructors should also guide the learning process by monitoring the quality of discussion, questioning, redirecting and introducing new materials to activate critical thinking and keeping the discussion productive (Youngblood et al., 2001; Marks et al., 2005). To be able to do the challenging tasks of the online facilitators, instructors should be prepared to work as hard as they would in a traditional face to face class (Maor & Volet, 2007; Steinbrown & Merideth, 2003). Furthermore, instructors in an online context must be prepared to learn and have a positive attitude towards technologies since most of them have little or no formal training on the effective use of technology in education (Lao & Gonzales, 2005). In addition, online instructors are encouraged to use all communication techniques at their disposal in order to participate in producing an effective online instruction (Mayzer & Dejong, 2003). To provide effective online education, instructors must interact with their learners in a timely fashion. Feedback is the frequently used form of interaction between the instructor and the learner; therefore, instructors' comments must contain sufficient feedback. Lao & Gonzales (2005) concluded that writing feedback to students was found to consume a lot of the instructors' time. Instructors who teach online courses for the first time may have negative attitudes towards teaching future courses online and towards online education in general (Lao & Gonzales, 2005). This negative perception may worsen if those

instructors encountered technical problems or lacked technical support. On the contrary, instructors who taught online courses for the first time, but were proficient in using technology had a positive attitude towards online education and towards teaching future courses online (Lao & Gonzales, 2005).

Instructors' role in e-learning is important because it has an effect on e-learners' satisfaction (Appana, 2008). The effectiveness of the instructor was found to impact students' satisfaction more than the technology (Appana, 2008). However, in many instances faculties are not trained in the design and implementation of online education (Sadik, 2007). Lack of skills and knowledge about online education negatively affect the attitudes of the faculty members towards using technology (Sadik, 2007). In addition, negative attitudes towards technology, contribute to change resistance and delays the adoption of technology in education. Factors such as computer literacy, profession and training received influence the proper use of technology (Sadik, 2007).

In a study conducted at South Valley University in Egypt, Sadik (2007) found that faculty attitudes towards the use of technology was positive; however, their main barriers to using technology were lack of training, lack of knowledge, lack of time to develop e-learning, lack of technical support and lack of equipment. Since learners' attitudes towards online education is influenced greatly by instructors' effectiveness (Appana, 2008), it is critical to provide training for instructors before they teach online. Instructors in many universities such as Capella University, Walden University and the University of Phoenix are required to attend training in technology use, pedagogy, policies and procedures of the University, and principles of instructional design of online courses (Lao & Gonzales, 2005).

Instructors in online courses need to be creative and find ways to improve the learning environment. The design of online courses should consider learners' differences, avoid information overload, encourage social interaction, provide hands on activities and seek learners' reflections (Aragon & Johnson, 2008). Instructors should also plan to communicate with learners on a pre determined timeline and set regular online office hours to enhance communication with learners (Aragon & Johnson, 2008). Instructors, in addition, should work closely with instructional designers to continuously improve the quality of the instruction.

Despite the advantages of e-learning to learners, culture may play a negative role in using it. Non English speaking learners may have difficulties communicating in text (Appana, 2008). They may also find the pace of dialogues frustrating. Therefore, orienting students from different cultures to the nature of the course and to ask for help when needed is essential. In addition, orienting instructors to consider those learners is also important.

Administrators' Readiness

Online education has proven beneficial for many reasons. E-learning opens the door to new markets globally without the boundaries of space or time (Appana, 2008). This also helps sustain programs with low enrollment rate by providing access to learners who can't attend traditional education. In addition, it enhances international partnership and opens doors to share expertise and knowledge (Appana, 2008). Furthermore, online education has also shown to improve the faculty's learning curve, improves feedback and evaluation. Managing a system this complex is a challenging task that cannot be easily performed by administrators who have negative attitudes towards online education.

The importance of administration in online education starts with the recognition of the need and or benefits of online to the organization such as increased funding or decreased

operational cost (Kathawala & Wilgen, 2004; Burns, 2005). When there is a need or an opportunity for development, the administration should get other parties (such as instructors, designers and subject matter experts) engaged in the idea (Moore & Anderson, 2004; Youngblood et al., 2001).

The attitudes and beliefs of the administrators are critical to the success of online programs because they are going to be actually running the programs (Nasser & Abouchedid, 2000). Assessing key stakeholders' attitudes towards online education should be the first priority before efforts are made to implement online programs (Nasser & Abouchedid, 2000). Administrators should also oversee the quality of the online instruction and work to continuously improve it with the help of other stakeholders. To assure good quality of online education, the administration should provide full support and future developmental needs for learners, instructors and technical personnel because they are critical to the success of online education (Youngblood et al., 2001; Suanpang & Petocz, 2006; Whitmore, 2005; Billings, 1999). Organizations that are new to online education should utilize the experiences and recommendations of those who are experienced in this area of education. Another important role of the administration is to help keep instructors motivated by appreciating the workload of online education and perhaps the need for external motivators such as providing financial incentives or reducing their workload encountered by other responsibilities (Youngblood et al., 2001; Hawkes, 1996; Steinbrown & Merideth, 2003). Administrators need to provide instructors with access to instructional designers to help them prepare and design courses and materials that match the learners needs (Aragon & Johnson, 2008). The services of instructional designers should be available to both full time and part time instructors (Aragon & Johnson, 2008). In addition, all instructors should be provided with workshops on best practices in the design of instruction.

When training the instructors, the design and implementation of the training should be done by experts to prepare instructors for the e-learning environment (Nasser & Abouchedid, 2000). When an online program is established, the administration should focus on frequent evaluation and improvement of the quality by regular staff development and inservice programs (Tham & Werner, 2005; Roffe, 2002). In addition, the administration should focus on the competency of instructors, technical support and information availability (Hawkes, 1996; Maor & Volet, 2007; Fisher & Baird, 2005).

In order to adopt and institutionalize online education, administrators need to develop and update policies and procedures to accommodate e-learners and instructors (Appana, 2008). The cost of initiating an online education is high; however, the operational cost becomes less than that of traditional education due to economics of scale (Appana, 2008). In online education, instructors can work from distance. Therefore, managers have a large pool of instructors to recruit from without the need for financial expenditures on their travel and other obligations. Furthermore, the availability of educational resources on the web is tremendous and their transfer is very efficient (Appana, 2008). In the online arena, administrators are expected to be able to work with learners and instructors from different countries. Therefore, managers must be knowledgeable of different cultures and aware of international regulations.

Chapter Summary

It can be said that in order to improve the quality of online education, learners and instructors must be committed to learning (Youngblood et al., 2001) and that learners must also accept some responsibility for their learning (Moore & Anderson, 2004; Youngblood et al., 2001). Therefore, learners and instructors must have an orientation and support to help them understand the fact that online learning has at least the same workload as that of traditional face

to face learning (Ponzurick et al., 2000; Maor & Volet, 2007) and that the communication in an online context requires more time than that of traditional delivery (Steinbrown & Merideth, 2003; Dykman & Davis, 2008). Furthermore, learners and instructors must be clear about the role and what is expected of each of them and where to get help when required (Steinbrown & Merideth, 2003). Because online learning is learner-centered (Lao & Gonzales, 2005), learners should be encouraged to set their own learning objectives and methods of assessment based on their needs and goals (Hawkes, 1996). Learners' attitudes, perceptions and beliefs about online learning are also important to evaluate since they were found to be an important determinant of the success of the online courses (O'Dwyer et al., 2007; Mayzer & Dejong, 2003).

Rogers stated that the diffusion of new ideas into organizations is determined by their relative advantage to the organization, the degree to which they are compatible with the organizational culture, their degree of complexity, their trialability and the degree to which new ideas produce observable results. The use of online education in healthcare is a relatively new idea that seems to meet the five criteria stated by Rogers. Therefore, online education in healthcare is expected to be institutionalized into healthcare organizations' daily activities in a relatively short period of time.

In chapter three the focus is on the methodology used to guide this research. Sampling techniques, data collection methods and data analysis are discussed.

CHAPTER 3 METHODOLOGY

Healthcare organizations utilize part of their budgets on continuous development of their employees' skills and knowledge in order to provide better services to patients. However, the employees' limited time, schedules' constraints, and limited financial and human resources allocated to training, make traditional staff development programs challenging. Providing staff development programs online will help overcome these obstacles. In order to help organizations shift to online education and to succeed in its provision, the readiness of organizations to such educational reform is essential.

This research aims to investigate the attitudes and beliefs of KFMC's administrators to online education and to what extent they were supportive of it. In addition, instructors' skills and attitudes towards online education are analyzed and discussed. Furthermore, employees' technical skills and learning behaviors are determined. As the three main stakeholders, administrators, instructors and learners' attitudes and skills towards online education helped the researcher determine the overall readiness of the organization to adopt online staff development programs.

In this section the methodology of the study is explained. This section describes the different groups of participants of the study and how they were recruited. In addition, data collection methods and their validation are also discussed. Finally, the analysis of data is determined based on the variables of the study.

Research Design

This study uses a survey research approach. The overall attitude of stakeholders is assessed and the relationships between the variables are investigated. This research analyzes the relationships between dependent and independent variables. The dependent variables in this

study are online skills and relationships, motivation, internet discussion abilities, and attitudes toward using online education. Independent variables, on the other hand, are occupation, age, gender, educational level, years of experience, country of graduation and the level of the administration.

Target Population

Participants of this study included employees, instructors and administrators at King Fahad Medical City (KFMC) located in Riyadh, Saudi Arabia. These three groups of people were selected to participate in this study because they constitute the major stakeholders of online education at KFMC.

Group One

The administrator group in this study included the executive officers (EO), associate executive officers, hospitals' directors, department chairs, section managers and supervisors. One hundred and fifty (150) administrators at the determined administrative levels were selected to participate in this study.

Group Two

Participants also included one hundred (100) instructors and educators from all departments in the medical city including nursing education, clinical education, life support education and administrative education. All clinical and non clinical instructors were selected to participate in this study.

Group Three

Participants also included the employees at different departments in KFMC. A random sample was selected from three thousand (3000) employees from different occupations. The

target population included all occupations in KFMC including medical, nursing, specialists, technicians and administrative staff.

Procedure

This research was conducted after obtaining the approval from the Human Investigation Committee (HIC) at Wayne State University (see Appendix A). This study was also approved by the Institutional Review Board at KFMC (see Appendix B).

This research used two different instruments to collect data from the three groups. Data from the administrators and instructors groups were collected using a modified version of the Faculty and Administrators' Survey (Alharbi, 2002) (see Appendix C). The employees' group was surveyed using the modified version of the Online Learner Readiness Self-Assessment Instrument (Watkins, Leigh & Triner, 2004) (see Appendix D). The researcher worked with the research center at KFMC to complete this research. Paper-based surveys were distributed by the research center at KFMC. The researcher was responsible for the overall methodology of the research to assure that it meets all ethical and legal consideration stated by the HIC. However, the research center was responsible for distribution, follow up and collection of the completed surveys. Involving the research center in any research at KFMC is mandatory. In addition, the research center involvement assured anonymity of respondents. The research center gave the completed surveys, without identification of the respondents, to the researcher.

Administrators and Instructors

After obtaining the necessary permissions, the Faculty and Administrators' Survey was distributed to all instructors and administrators. Along with the survey, each respondent also received an envelope addressed to the research center. The research center at KFMC was responsible for the initial distribution of surveys, reminding respondents and gathering

completed surveys. After six weeks, the researcher received the completed surveys from the research center at KFMC to conduct the data entry and analysis. The research center role was limited only to distribution and gathering of the surveys in order to assure anonymity of respondents. The research center followed up with the respondents in two and four weeks and provided more survey instruments when needed. Administrators and instructors were asked to place the completed surveys in the provided envelopes, seal them and return them through the internal mail system to the research center. To enhance their participation, administrators and instructors were prompted to receive highlights of the study results.

Employees

The Online Learner Readiness Self-Assessment Survey was sent to all identified departments through the research center. Each department was reminded, by the research center, to return the completed surveys in two to four weeks. Each department was asked to return the completed surveys through the internal mail to the research center after four weeks. After six weeks, the completed surveys were given to the researcher to continue with his research. To enhance the return rate, the researcher sent an email, through the research center, to each department's head explaining the benefits of the research. This email was sent before the surveys were sent out.

The researcher with help of the research center conducted the randomization. The researcher was involved in conducting the research to assure that respondents were recruited ethically without being forced to participate. However, the research center was responsible for the distribution, follow up and collection of the completed survey. When the data collection process was completed, the research center gave the researcher the completed surveys to

continue with data entry and analysis. The researcher did not have access to the respondents' identifiers such as names, positions or email addresses.

The stratified random sampling technique was used to select the sample from the employee's group. Stratified random sampling is used when the population is heterogeneous and consists of multiple subpopulations (Hinkle, Wiersma & Jurs, 2003). This technique was used because the learners' sample included employees from different occupations including physicians, nurses, specialists, technicians and administrative staff. The researcher's aim was to obtain a random sample from each staff category. The researcher's aim was to collect and analyze 320 responses from the learner's group; therefore, 1000 surveys were distributed to all departments to include all designated staff categories. The researcher aimed to include sufficient and random sample from each staff category (physicians, nurses, specialists, technicians and administrative staff).

In cooperation with the research center at KFMC, the researcher assigned each department at KFMC to one of five categories. The categories were; 1) medical, 2) nursing, 3) specialists, 4) technicians and 5) administrative staff. The "medical category" included physicians, pharmacists and dentists, while the "specialists category" included specialists from different departments including respiratory therapists and physical therapists. The "technicians' category" included technical staff from all departments including laboratory technicians and respiratory care technicians. The "administrative staff category" included staff that perform managerial tasks, but are not administrators. The "administrative staff category" included secretaries, clerks, interpreters, security staff, social services staff and the like. When the categories were established, three departments were selected randomly from each category. After selecting a total of fifteen departments from all categories, surveys, along with envelopes

addressed to the research center, were distributed to employees at the selected departments. Employees at the selected departments were asked to place the completed surveys in the envelopes provided, seal them and send them to the research center through internal mail.

Instrumentation

Data were collected using two surveys. The employees, the instructors and the administrators were surveyed using validated instruments. Both surveys were available to respondents in English and Arabic languages and the Arabic translation of the surveys was validated by academic professionals who are native speakers of the Arabic language. When the English version of both surveys were constructed, they were sent to a faculty member at Dammam University in Saudi Arabia, who speaks both English and Arabic languages fluently. The faculty member was asked to translate the surveys into the Arabic language. The Arabic versions of the surveys were then sent to an adjunct faculty at Loma Linda University, who speaks both English and Arabic fluently. The adjunct faculty was asked to translate both surveys back into English (see Appendix E). The researcher then compared the original English version of the surveys with the back translated surveys and ensured that both versions maintain the same meaning.

The Online Learner Readiness Self-assessment Survey

Permission to use this instrument was obtained from the publisher. This instrument consisted of twenty seven questions distributed over six parts that measure the learners' access to technology (n=3), online skills and relationships (n=9), motivation (n=3), online audio and video skills (n=3), internet discussion (n=4) and the importance of online to the learners' success (n=5). The learners were asked to rate their skills and attitudes towards online learning by selecting from five choices 1 "completely disagree", 2 "strongly disagree", 3 "not sure", 4

“strongly agree”, and 5 “completely agree”. A demographic part was added to this instrument and it included age, gender, occupation, educational level, years of work experience. In addition, this part also included a question that asks about the participants previous experiences with online education. Furthermore, this part included questions that ask about the respondents’ access to a computer and an internet connection at work and at home.

The Faculty and Administrator Survey

Instructors and administrators were surveyed using a modified version of The Faculty and Administration Survey developed by Alharbi (2002). Parts I and II of the survey was customized for healthcare organizations’ use because the initial survey was designed for academic use. Part I of the survey asks questions about the respondents’ job-related and demographic variables. The first part of the survey was modified to include the respondents’ age, gender, occupation, educational level, years of work experience, nationality and country of graduation. In addition, the first part of the survey included questions that ask about the access to computer and internet connection at home and at work.

The second part of the survey consisted of twenty-two questions that are related to the faculty members and administrators’ attitudes towards online education. This survey uses a 5-point Likert scale in which respondents were asked to select from 1 “strongly disagree”, 2 “disagree”, 3 “neutral”, 4 “agree”, and 5 “strongly agree”.

Enormous attempts were made to contact the developer of this survey in order to obtain his permission to use this instrument. However, the researcher was not successful in these attempts. Over a period of seven months, the researcher contacted the developer’s advising committee at Northern Colorado University in order to ask them for contact information for the developer without success. In addition, the researcher contacted the Saudi Arabian Cultural

Mission to the United States and asked them to contact the developer of the survey. However, they were not able to locate his contact information. Furthermore, the researcher, formally and informally, contacted Imam Mohammad Bin Saud University, which is the sponsor of the developer, but was not able to establish contact with the developer.

Validity and Reliability

The validity refers to the extent to which a concept is defined by a measure (Hair et al., 2006). Reliability, on the other hand, is “an assessment of the degree of consistency between multiple measurements of a variable” (Hair et al., 2006, p. 137). The most widely used measure to assess reliability is the reliability coefficient using Cronbach’s Alpha (Hair et al., 2006).

Learners’ readiness survey. The face validity of The Online Learner Readiness Self-Assessment Survey was assured by its development. This instrument was initially developed and revised by experts in the field of distance education from three different Universities (Watkins, Leigh & Triner, 2004).

A Cronbach’s Alpha value of more than 0.70 is considered acceptable (Hair et al., 2006). The Online Learner Readiness Self-Assessment Survey showed an overall Cronbach’s alpha of 0.88 (Watkins et al., 2004).

Faculty and administration survey. The validity of The Faculty and Administration Survey was established by Alharbi (2002). In addition, the instrument showed an overall Cronbach’s Alpha of 0.93 which ensures its reliability.

This research only used a modified version of this instrument. The researcher used part two of the instrument which investigates the administrators’ and instructors’ attitudes towards online education with the addition of a modified set of demographic and job-related variables. The developed instrument was tested for validity by an expert panel including PhD students in

the United States and faculty members from Dammam University in Saudi Arabia. In addition, the instrument was piloted in Prince Sultan Cardiac Center in Saudi Arabia which is similar to KFMC in that it is a specialized healthcare organization and recruits staff from the same countries. The instrument was modified based on the piloting results and a final version was constructed. Piloting ensured that the structure and language of both surveys was clear and easily understood by respondents. In addition, the piloting process was used to test the reliability of this survey.

Data Analysis

The data collected in this research was analyzed using both descriptive analysis and inferential statistics analysis. Measures of central tendency, measures of variability and frequency of responses were used to analyze research questions 1, 2 and 6. In addition, research questions 3, 4, 5 and 7, were analyzed using the Spearman correlation coefficient (Table 1).

Table 1
Summary of Research Questions, Data Collection Instrument and Analysis Techniques

Research Question	Sources of Data	Data Analysis Techniques
1. What are the learners' strengths related to their readiness for online education?	The Online Learner Readiness Self-Assessment survey (Part I, questions: 8-11 and Part II, questions: 1-28)	Descriptive analysis
2. What are the learners' weaknesses related to their readiness for online education?	The Online Learner Readiness Self-Assessment survey (Part I, questions: 8-11 and Part II, questions: 1-28)	Descriptive analysis
3. What are the relationships between selected learners' demographic variables (occupation, age, gender, nationality, years of experience and educational level) and their online skills and relationships, motivation and internet discussion abilities?	The Online Learner Readiness Self-Assessment survey (Part I, questions 1,2,4-7 and Part II, questions 4-12, 13-15, 19-22)	Spearman correlation coefficient
4. What is the relationship between learners' past experiences with online education and their motivation towards e-learning?	The Online Learner Readiness Self-Assessment survey (Part I, questions 3 and Part II, questions 13-15)	Spearman correlation coefficient
5. What are the relationships between selected instructors' demographic variables (age, gender, years of teaching experience, and country of graduation) and their attitudes toward using online continuing education at KFMC?	Faculty and administration survey (Part I, questions: 3,4,6,11,12 and Part II, questions: 1-19)	Spearman correlation coefficient
6. What are the attitudes of the administration toward the provision of online continuing education at KFMC?	Faculty and administration survey (Part I, questions: 1,2 and Part II, questions: 1-19)	Descriptive analysis
7. What are the relationships between the level of the administration and their attitudes toward using online continuing education at KFMC?	Faculty and administration survey (Part I, question 2 and Part II, questions: 1-19)	Spearman correlation coefficient

Chapter Summary

This research aimed to investigate the readiness of King Fahad Medical City to adopt effective online staff development programs. The researcher assessed the overall readiness of the organization by assessing the technical readiness, beliefs and attitudes towards online education of the three main stakeholders in healthcare organizations. The three groups were staff, administrators and instructors. Acknowledging the importance of the infrastructure and the importance of the competence of the information technology department and staff, this research is considered a step towards assessing the practicality of using online education in a healthcare organization in Saudi Arabia.

This research was conducted using two validated instruments, written in both English and Arabic languages, because some administrative staff may not be able to understand questions written in the English language. In addition, native speakers of the Arabic language may find it easier to respond to an Arabic survey, even when they understand English, and this will enhance the response rate. This research was conducted with the help of the research center at KFMC. The research center at KFMC was responsible for distributing the questionnaires, reminding respondents and collecting the completed surveys. The involvement of the research center is mandated by KFMC and will help assure confidentiality of respondents.

This research focused on the readiness of the organization to use online programs to develop the skills and knowledge of its staff. However, the results of this research also analyzed the strengths and weaknesses of the three target population groups towards the use of online education. In addition, this research analyzed each target population group and looked for associations between these subgroups and their attitudes towards online education. The results of this research provides decision makers at KFMC, and in other tertiary healthcare organization in

Saudi Arabia, part of the information they need to take an informed decisions regarding the investment in online education at this time.

We transfer now to chapter four where the results of the research will be analyzed. The collected data will be described and the research questions will be analyzed using the techniques stated in Table 1.

CHAPTER 4 RESULTS

This chapter will cover the results of the data analysis for this research. The data were analyzed using the SPSS statistical software version 17 (2008). Data analysis is presented here in three sections: (a) distribution and return rate of surveys, (b) description of the respondents' demographics and (c) data analysis related to the research questions.

Description of the Respondents

This research used two different surveys in order to answer the research questions. The Online Learner Readiness Self-Assessment Survey was used to answer questions related to the staff's readiness to utilize online education. The Faculty and Administration Survey was used to answer questions related to the attitudes of administrators and instructors to the adoption of online education at KFMC.

The response rate differed between the staff category and the administrators' and instructors' category. One thousand (1000) surveys were distributed to all departments at KFMC after obtaining the approval from the research center and the academic affairs (Appendix B). Five hundred and sixty (560) surveys were returned (56%) to the researcher. Fifty two (52) incomplete surveys were discarded and five hundred and eight (508) surveys were analyzed.

Four hundred (400) surveys were sent to both the administrators and the instructors at KFMC. One hundred and ninety five (195) surveys were returned (49%). Only one hundred and sixty four (164) completed surveys were used to analyze data. Of the one hundred and sixty four (164) surveys, one hundred (100) were answered by administrators at different managerial levels and only sixty four (64) instructors from different departments. Table 2 summarizes the distribution and return rate of both employees' and administrators' surveys.

Table 2
Return Rate for Employees, Administrators and Instructors at KFMC

	Sent	Returned	Return Rate
Employees Survey	1000	508	51%
Administrators' and Instructors' Survey	400	195	49%
Total	1400	703	50%

Description of the Respondents' Demographics

This section describes the respondents' demographics. Employees' demographics, administrators' and instructors' demographics will be presented here.

Employees' Demographics.

Of the 508 employees surveys, 48% (n=244) were male and 52% (n=264) were female. Respondents included 15.7% (n=80) physicians, 17.1% (n=87) nurses, 16.9% (n=86) specialists, 26.4% (134) technicians and 23.8% (n=121) administrators. More than half of the employees sample were Saudi nationals (58.3%, n=296) and about one-fifth of the sample were from the Philippines (20.9%, n= 106). Almost three quarters of the employees' sample (74%, n=379) did not take online courses in the past while 25% (n=129) reported having online education experience. More than half the employees' sample (51.8%, n=263) were between 20 and 30 years of age, while only 15% (n=79) were older than 40 years of age. Table 3 summarizes the demographic variables of the employees.

Table 3
Employees' Demographic Variables at KFMC

		N	Percent	Cumulative Percent
Age	20 – 30	263	51.8	51.8
	30 – 40	166	32.7	84.4
	40 – 50	56	11.0	95.5
	50 or older	23	4.5	100
Occupation	Physician	80	15.7	15.7
	Nurse	87	17.1	32.9
	Specialist	86	16.9	49.8
	Technician	134	26.4	76.2
	Administrative	121	23.8	100
Gender	Male	244	48.0	48
	Female	264	52.0	100
Nationality	Saudi	296	58.3	58.3
	Arab (non-Saudi)	56	11.0	69.3
	Philippines	106	20.9	90.2
	Others	50	9.8	100
Online Experience	Yes	129	25.4	25.4
	No	379	74.6	100

Administrators' and Instructors' Demographics

Of the 164 usable surveys, almost two thirds (n=100, 61%) were administrators at different levels and about one third (n=64, 39%) were instructors from different departments.

Half of the administrators' and instructors' sample (n=84, 51%) graduated from Saudi Arabia or other Arab countries. Around one fourth of the sample (n=38, 23%) graduated from Western countries. Male respondents represented around half the sample (n=83, 51%) while females represented the other half (n=81, 49%). In addition, the sample consisted of almost half (n=86, 52%) Saudi nationals and about half (n=87, 47%) non-Saudi nationals. Table 4 summarizes the demographic variables of administrators and instructors.

Table 4
Administrators and Instructors Demographic Variables at KFMC

		N	Percent	Cumulative Percent
Nature of your daily work	Administrative	100	61	61
	Training/Education	64	39	100
Country of Graduation	Saudi Arabia	63	38.4	38.4
	Other Arab	21	12.8	51.2
	Country			
	Western Country	38	23.2	74.4
	Eastern Country	16	9.8	84.1
	Other	26	15.9	100
Gender	Male	83	50.9	50.9
	Female	81	49.1	100
Nationality	Saudi	86	52.4	52.4
	Non-Saudi	78	47.6	100

The vast majority of the instructors in this study (n= 53, 83%) had no online experience. In addition, almost half of the administrators were from the lower level of management (supervisors) (n=48, 48%) while the sample included 3% (n=3) from top management (executive

officer, associate executive officer, hospital director) and 49% (n=49) from the middle management (department head or section manager). Although the top management counted for only 3% of the total sample collected from the administrators group, the actual number of top management positions at KFMC (executive officers, associate executive officers and hospital directors) is eleven (11) which makes the actual percentage of respondents from top management 27%. Tables 5 and 6 summarize instructors' previous experience with online education and administrators' managerial level respectively.

Table 5
Instructors' Previous Experience with Online Education

		N	Percent	Cumulative Percent
Have you taught online before?	Yes	11	17.2	17.2
	No	53	82.8	100

Table 6
Administrators' Managerial Level

		N	Percent	Cumulative Percent
Administrators' managerial level	Executive officer or Associate E.O.	2	2 ^a	2
	Hospital Director	1	1 ^b	3
	Department head	11	11	14
	Section manager	38	38	52
	Supervisor	48	48	100

^aThe total number of executive officers and associate executive officers at KFMC is seven (7), therefore the actual percentage of respondents from this level of management is 29%. ^bThe actual number of hospital directors at KFMC is four (4), therefore the actual percentage obtained from this managerial level is 25%.

Data Analysis Related to the Research Questions

This section will describe the method and results of the data analysis in relation to each research question.

Q1: What are the learners' strengths related to their readiness for online education?

Employees were asked to respond to 27 questions that measured six (6) dimensions of readiness to online education on a 5-point Likert scale ranging from completely disagree (1) to completely agree (5). These six dimensions were technology access, online skills and relationships, motivation, online audio and video, internet discussions and importance to success. If staff responded positively to any statement by selecting strongly agree (4) or completely agree (5), they were considered ready for online education in regard to that statement. The collective responses to statements determined the overall readiness to each dimension. Therefore, calculation of the means to each dimension was used as a determinant to the degree of strength that staff are ready for online education in relation to that dimension. The mean of all dimensions' means was used to determine the degree to which employees were ready for online education.

Results of this study show that almost all staff have access to computers and internet at home and at work. 94% (n=480) of the staff sample reported that they have access to computer with internet connection at home. In addition, the vast majority of staff (n=472, 92.9%) have access to the internet at work. The access to computer and internet is summarized in Table 7.

Table 7
Staff Access to Computer and Internet at Home and at Work

	Yes		No	
	N	%	N	%
Do you have access to computer at home?	476	93.7	24	4.7
Do you have internet access at home?	480	94.5	28	5.5
Do you have access to computer at work?	495	97.4	11	2.2
Do you have internet access at work?	472	92.9	36	7.1

By analyzing the six dimensions of the questionnaire that represented the readiness of the staff for online education, all of the staff responded positively (mean >3) to all dimensions. However, to determine the strengths of the staff, the dimensions with the highest means were analyzed further to identify the variables with the highest means. Means and standard deviations of all dimensions are summarized in Table 8.

Table 8
KFMC's Staff Strengths to Adopt Online Education

Dimension	N	Mean	SD
Technology access	501	4.34	0.82
Important to your success	498	4.34	0.63
Online skills and relationships	482	4.33	0.63
Online audio and video	497	4.04	0.74
Internet discussion ability	499	3.98	0.73
Motivation	497	3.84	0.84

Dimensions with the highest means were technology access (mean= 4.34) and importance to success (mean= 4.34). Further analysis of these dimensions revealed that the variables with the highest means were “I have access to a computer with an internet connection” (mean= 4.53) and “I feel that prior experiences with online technologies (e.g., email, Internet chat, online readings)

are important to my success with online course” (mean= 4.37). Table 9 describes the variables in the dimension with the highest mean.

Table 9
Variables in the Dimension with the Highest Mean

	Item	N	Mean	SD	Dim. Mean
Access to Technology	I have access to a computer with an internet connection	507	4.53	0.85	4.34
	I have access to a fairly new computer (eg. enough RAM, speakers, CD-ROM)	507	4.14	1.07	
	I have access to a computer with adequate software (eg., Microsoft Word, Adobe Acrobat)	501	4.35	0.94	
Importance to your success	Regular contact with the instructor is important to my success in online coursework	507	4.20	0.82	4.34
	Quick technical and administrative support is important to my success in online coursework	505	4.34	0.76	
	Frequent participation throughout the learning process is important to my success in online coursework	503	4.36	0.71	
	I feel that prior experiences with online technologies (e.g., email, Internet chat, online readings) are important to my success with online course	504	4.37	0.79	
	The ability to immediately apply course materials is important to my success with online courses	506	4.41	0.74	

Q2. What are the learners' weaknesses related to their readiness for online education?

The two dimensions with the lowest means were motivation (mean=3.84) and internet discussion ability (mean=3.98). Further analysis of these dimensions revealed that the variable with the lowest mean was "I think that I would be able to complete my work even when there are distractions in my home (e.g., television, children, and such)" (mean= 3.75). The variable with the lowest mean in the discussion ability dimension was "I think that I would be able to follow along with an online conversation (e.g., Internet chat, instant messenger) while typing" (mean=3.70). Table 10 shows the means of all variables in the dimensions with the lowest means.

Table 10
Variables in the Dimension with the Lowest Mean

	Item	N	Mean	SD	Dim. Mean
Motivation	I think that I would be able to remain motivated even though the instructor is not online at all times	503	3.84	0.95	3.83
	I think that I would be able to complete my work even when there are online distractions (e.g., friends sending emails or Websites to surf)	504	3.91	1.02	
	I think that I would be able to complete my work even when there are distractions in my home (e.g., television, children, and such)	501	3.75	1.04	
Internet discussions ability	I think that I would be able to carry on a conversation with others using the Internet (e.g., to Internet chat, instant messenger)	503	4.29	0.89	3.98
	I think that I would be comfortable having several discussions taking place in the same online chat even though I may not be participating in all of them	505	3.91	0.99	
	I think that I would be able to follow along with an online conversation (e.g., Internet chat, instant messenger) while typing	504	3.70	1.12	
	I sometimes prefer to have more time to prepare responses to a question	504	4.01	0.84	

Q3. What are the relationships between selected learners' demographic variables (occupation, age, gender, nationality, years of experience and educational level) and their online skills and relationships, motivation and internet discussion abilities?

Spearman's correlation was used to find if there was an association between the independent variables (occupation, age, gender, nationality, years of experience and educational

level) and the dependent variables (online skills and relationships, motivation and internet discussion ability). Correlational studies between the dependent and independent variables revealed a significantly positive relationship between occupation and internet discussion ability ($r = 0.095$, $p < 0.05$). In addition, there was a negative significant relationship between gender and motivation ($r = 0.092$, $p < 0.05$). Other variables were not found to have statistically significant correlation at the 0.05 level. Table 11 show the relationship between the dependent and independent variables.

Table 11
Correlation Between Employees' Demographic Variables and Selected Dimensions

	Online Skills and Relationships	Motivation	Internet Discussion Ability
Occupation	.071	.012	.095*
Age	-.036	.006	-.038
Gender	-.052	-.092*	-.023
Nationality	.013	.017	-.033
Years of experience in current job	.060	.035	.032
Educational level	.075	.003	-.002

* $p < .05$.

Q4. What is the relationship between learners' past experiences with online education and their motivation towards e-learning?

The relationship between employees' past experience with online education and their motivation with online education was analyzed using Spearman's correlation coefficient (Table 12). The results of the analysis revealed that there was a statistically significant negative relationship between past experience with online education and the level of motivation at the 0.05 level ($r = -0.088$, $p = 0.05$).

Table 12
Relationship Between Employees' Past Experience with Online Education and Their Motivation for Online at KFMC

	Have you taken online courses before?
Motivation	-.088*

* $p < .05$.

Q5. What are the relationships between selected instructors' demographic variables (age, gender, years of teaching experience, and country of graduation) and their attitudes toward using online continuing education at KFMC?

Spearman's correlation coefficient was used to analyze the relationship between the independent variables (age, gender, years of teaching experience, and country of graduation) and the dependent variable (attitude towards using online education at KFMC) (Table 13).

Nineteen (19) questions on the survey were used to determine the administrators' and instructors' attitude towards online education at KFMC. These questions used a 5-point Likert scale ranging from strongly disagree (1) to strongly agree (5). The mean of each response was calculated and then the overall mean of all means was calculated to determine the overall attitude towards online education. Correlation was then measured between the independent variables (age, gender, years of teaching experience, and country of graduation) and the overall attitude of instructors.

Results of the analysis revealed that there was a statistically negative correlation between the instructors' age and their attitude towards online education ($r = -0.261$, $p = 0.037$). Other variables (gender, experience and country of graduation) did not show statistically significant relationship with the dependent variable (overall attitude) at the 0.05 level.

Table 13
Relationship Between Instructors' Demographic Variables and Their Attitude Towards Online Education at KFMC

	Overall attitude
Age	-.261*
Gender	-.172
Experience in current job	-.093
Country of graduation	.015

* $p < .05$.

Q6. What are the attitudes of the administration toward the provision of online continuing education at KFMC?

Descriptive analysis was used to examine the attitudes of the administration to online education. Since the survey had a mix of positive and negative questions, responses to negative questions were re-coded where “strongly disagree” (1) was changed to “strongly agree” (5), “disagree” (2) was changed to “agree” (4), “agree” (4) was changed to “disagree” (2) and “strongly agree” (5) was changed to “strongly disagree (1). The recoding was done to adjust for the mean calculation. The overall mean of all items measuring attitude towards online education (19 items) was calculated and used to determine the overall attitude of administrators towards online education at KFMC. The overall mean of all items was (3.88) which represents a positive attitude towards online education (Table 14).

Although the administrators' overall attitude towards online education was positive, administrators responded negatively to one item (mean <3.0). Administrators responded negatively to the variable “I believe that using web based courses will not be as effective as the traditional way of teaching” (n= 99, mean= 2.8) which suggest that most administrators think that online education is not as effective as traditional methods of teaching. On the contrary,

administrators believe that “the use of audio-visual materials in web based courses will improve students’ learning” (n = 98, mean = 4.3), “online education will improve the access to continuing education for female employees” (n = 99, mean = 4.3), “distance education via web based courses will provide opportunities for education in collaboration with national and international healthcare institutions” (n = 100, mean = 4.2), “online education is an appropriate medium (method) for transmitting educational courses” (n = 100, mean = 4.2) and “distance education via web based courses will help overcrowded continuing education activities” (n = 98, mean = 4.1). Table 15 summarizes the items with the highest and lowest means as perceived by the administrators.

Table 14
Administrators Overall Attitude Towards Online Education

	Overall Administrator’s Attitude
N	100
Mean	3.88
Std. Deviation	0.49

Table 15
Administrators' Responses Towards Selected Attitude Items

Item	N	Mean	SD
The use of audio-visual materials in web based courses will improve students' learning	98	4.27	0.89
Online education will improve the access to continuing education for female employees	99	4.28	0.76
Distance education via web based courses will provide opportunities for education in collaboration with national and international healthcare institutions	100	4.23	0.74
Web based (online) courses are an appropriate medium (method) for transmitting educational courses	100	4.17	0.81
Distance education via web based courses will help overcrowded continuing education activities	98	4.09	0.87
I believe that using web based courses will not be as effective as the traditional way of teaching	99	2.83	1.24

Q7. What are the relationships between the level of the administration and their attitudes toward using online continuing education at KFMC?

Spearman's correlation coefficient was used to analyze the relationship between the dependent variable (overall attitude) and the independent variable (managerial level) (Table 16). The results of the correlation revealed no statistically significant correlation between the dependent and independent variables. Therefore, there was no significant relationship between the managerial level of administrators and their attitude towards online education ($p > 0.05$).

Table 16
Relationship Between Administrators' Managerial Level and Their Attitude Towards Online Education

	Overall Administrators' Attitude
Managerial level	-.085

Chapter Summary

In this chapter the results of the data analysis were presented. Research Questions 1,2 and 6 were analyzed using descriptive analysis while Questions 3,4,5 and 7 were analyzed using Spearman's correlation coefficient. The results of analysis related to Questions 1 and 2 suggested that the employees' reported strengths in all dimensions of the survey. However, the dimension with the least strength was motivation. In Question 3, simple correlation was used to analyze the data. The analysis revealed a significantly positive relationship between occupation and internet discussion ability. In addition, there was a significantly negative relationship between gender of the employees and their motivation towards online education. Spearman's correlation was used to analyze data for Question 4 and the results showed a significant negative relationship between employees' past experience with online education and their motivation to e-learning. In Question 5, the results suggested that there was a negative correlation between the instructors' age and their attitude towards online education. Other demographic variables did not show any significant relationships with the instructors' attitude towards online education. Descriptive analysis was used to determine the administrators overall attitude towards online education (Question 6). Administrators showed a positive attitude towards the use of online education at KFMC. In Question 7, correlation was used to analyze the data and showed no significant relationship between the managerial level of the administrators and their attitude towards online education.

Chapter five discusses these results and offers conclusions and recommendations for future research.

CHAPTER 5 DISCUSSION, IMPLICATIONS, AND RECOMMENDATIONS

This chapter discusses the results of the research and how the findings can be utilized at King Fahad Medical City. Conclusions of the research are stated and recommendations are derived from the findings.

Discussion

The purpose of this study determines the readiness of King Fahad Medical City to adopt online programs to provide continuing education opportunities to improve the skills and competencies of its staff. Readiness for online education is critical to the success in an e-learning paradigm (Oomen-Early & Murphy, 2009). This research was conducted using two survey instruments to collect data to examine the research questions. The Online Learner Readiness Self-Assessment Survey was used to collect data from the employees at KFMC and was validated previously through its original development (Watkins, Leigh & Triner, 2004). The reliability of this instrument generated a Cronbach alpha of 0.94. Reliability is assumed when the Cronbach alpha is greater than 0.70 (Hair et al., 2006). The Faculty and Administrators' Survey was used to collect data from the administrators and instructors to answer the research questions related to them (Appendix C). The validity of this instrument was similarly satisfactory (Alharbi, 2002). The Cronbach alpha of the second part of the instrument, which measures the attitudes of the respondents towards online education, was 0.86.

Research of attitudes towards online education was conducted in the past in academic organizations in the Middle East region (example, Alharbi, 2002; Sadik, 2007). However, after extensive review of the related literature, this is the first study that explores the readiness of healthcare organizations to adopt online education for the purpose of medical and non-medical education in the region.

Surprisingly, the overall response rate was 50% for both surveys which is almost twice the response rate cited by Hu, Chau, Sheng, and Tam (1999). Their research yielded a response rate of 32.6% when they examined the factors that determine the adoption of Telemedicine by Taiwanese physicians.

Learners' Strengths Related to Their Readiness for Online Education

The results of this study found that the majority of staff has access to the internet at home and at work which concurs with the Economist Intelligence Unit Report in 2006 which states that internet usage in Saudi Arabia increased by 1000% from year 2000 to 2005 and it is continuing to grow (The Economist Intelligence Unit, 2006). In addition, a 2006 study conducted in the United States by Podichetty, Booher, Whitfield and Biscup found that 98% of Saudi physicians have access to the internet while 72% of them have access to the internet at both home and work. Furthermore, this finding supports the results reported by AlGhamdi (2009) which indicate that sixty two percent (62%) of dermatologists in Saudi Arabia have access to the internet at home and at work.

Since staff responded positively to all dimensions in the readiness survey, the researcher assumes they are ready to be part of online education. The survey used six dimensions that were found to determine the readiness for online education. The mean of the staff responses was greater in "access to technology" dimension and to the "importance to my success" dimension. This finding agrees with the results of studies by Hu. et al., (1999) Gibson, Harris & Colaric (2008) which state that the main factor that influenced physicians to adopt telemedicine was usefulness of the technology. In addition, the results here can be explained by the desire of the staff to pursue development at their current jobs using new technologies without the need to leave their jobs and family responsibilities. Studies by Mihhailova (2006); Maor & Volet (2007)

suggest that learners in online context are usually adults, working full time and with family commitments. The research also supports the observation that the majority of staff at KFMC are self-directed. Consequently, their chances of success in online education are greater (Appana, 2008).

Learners' Weaknesses Related to Their Readiness for Online Education

The overall mean of all staff responses to their readiness for online education was positive (>3). Dimensions with the lowest mean indicating weakness were motivation (mean=3.84) and internet discussion ability (mean=3.98). Studies demonstrate that the motivation of learners is among the critical factors that determine the dropout rate in distance education (Curless, 2004; Steinbrown & Merideth, 2003; Fisher & Baird, 2005). The results of this research show that KFMC staff responded less positively to the motivation questions than they did to other dimensions. KFMC staff may be less motivated to pursue online education at this time since online degrees are not yet accepted by the higher education authority in Saudi Arabia. Another reason that may have influenced medical professionals' motivation level is the accreditation of instruction provided online and if online instruction can be utilized for continuous medical education credits that healthcare providers are required to obtain in order to maintain their licensure. Motivation level of medical professionals may also be influenced by the topic of online instruction. Kovic, Lulic and Brumini (2008) found that medical bloggers' motivation level increases when the blog is related to sharing skills and knowledge. Therefore, respondents' motivational level at KFMC may be improved by carefully selecting topics of interest to learners and by building these decisions on needs assessment. Almost two thirds of the employees have no previous experience with online education and have had their education

using the traditional face to face education. Therefore, their motivation level to try online education may have been influenced by their past experiences.

Staff responses to the internet discussion ability dimension was also less positive (mean=3.98). Within this dimension, most staff responded less positively to the item “I think that I would be able to follow along with an online conversation (e.g., Internet chat, instant messenger) while typing”. This finding could be explained by the fact that most respondents speak English as their second language. Although some of them are fluent speakers of the English language, they may still find it difficult to read and type at the same time in English, their second language. Appana (2008) stated that learners who speak English as their second language may find rapid pace, multiple dialogues and text-only communication frustrating. In addition, they find it difficult to express their feelings and emotions using text-only communications. When working with multiple screens and typing in different languages, learners must frequently switch their keyboards between English and the other language which consumes time and effort and becomes frustrating at some stages.

The Relationships Between Selected Learners’ Demographic Variables (Occupation, Age, Gender, Nationality, Years of Experience and Educational level) and Their Online Skills and Relationships, Motivation and Internet Discussion Abilities

Many studies demonstrated that non completion of online courses was related to factors such as learners’ technical skills, experience with online learning and level of motivation (Curless, 2004; Steinbrown & Merideth, 2003; Fisher & Baird, 2005). In addition, learners’ dropout rate is among the determinants of the effectiveness of online education (Fisher & Baird, 2005).

Results of this study found a statistically significant relationship between learners' occupation and their internet discussion abilities. Although physicians reported positively towards the "internet discussion ability" dimension (mean=3.9), the correlation analysis revealed that physicians at KFMC were found to possess less internet discussion skills than administrative staff. This finding can be explained since administrative staff spend more time at their offices and do more work with computers while physicians spend less time at their offices. This finding is consistent with Balen and Jewesson (2004) who found that the internet skills of pharmacists in a large Canadian hospital needed upgrading to improve their performance. In addition, the results presented in this study concur with the results reported by Evans, et al., (2001) which state that 84% of hospital doctors in Midlands, England used email for communication with friends, family and colleagues.

Other learners' characteristics (age, gender, nationality, years of experience and educational level) were not correlated with either online skills and relationships or with internet discussion ability. Findings of this research support the findings of Aragon & Johnson (2008) who reported that age and ethnicity were not predictors of completion of online education. However, the same study showed that gender was a predictor of completion of online courses. These findings also support the research of Bernhardt, Runyan, Bou-Saada & Felter (2003) who found no correlation between age, sex or race/ethnicity and health professional's perceived effects of online medical education. This finding also contradicts AlGhamdi's (2009) who found that there was a significantly negative correlation between dermatologists' age and their internet use.

Research findings from the present study contradict Yukselturk's (2009) who found a significant correlation between learners' educational level and their satisfaction level in online

programs. However, the findings of this research support the findings of Yukselturk & Bulut (2007) who demonstrated that educational level of learners was not a significant predictor of learning outcomes.

This research also found a significant relationship between gender and motivation. Although most respondents from both genders responded positively to the motivation variables, female respondents were less motivated than males. This finding was surprising for the researcher because the culture in Saudi Arabia emphasizes segregation between males and females in education and work environment. Females were expected to be highly motivated to participate in online education since it is aligned with their cultural background and the educational system they have experienced. This finding is aligned with Washer (2001) who stated that female nurses were more likely to resist the introduction of new computer – based innovations due to their poor access to technology. This finding contradicts the findings of Aragon & Johnson (2008) which demonstrated that gender was significantly related to completion of online courses wherein 66% of females completed the course compared to 52% of male students. In addition, this finding contradicts the finding of AlGhamdi (2009) which found that gender of dermatologists in Saudi Arabian Hospitals was not significantly correlated to the use of internet.

The Relationship Between Learners' Past Experiences with Online Education and Their Motivation Towards E-learning

The overall responses of staff to questions related to motivation were positive. However, this research concludes that employees with previous online experience were less motivated when compared to those who had no experience with online education. This finding may be due to poor online courses experienced by staff. In addition, these courses may not have been based

on scientific theories and designed and developed by experts. Furthermore, this finding may be due to the perception of employees with no experience with online education. Employees with no online education experience may expect that online education requires less effort and time to complete when compared to traditional education.

This result contradicts the study conducted by Muilenburg & Berge (2005) which found that learners with no previous online experiences had a negative attitude towards online education compared to those with online experience. In addition, Muilenburg & Berge (2005) found that the negative perceptions of learners without previous online experiences, about online education, decreases significantly after taking only one online class.

This research also contradicts the findings of both studies conducted by DeBourgh (1999) and Yukselturk (2009) which report that learners' previous experience with online education was not related to their level of satisfaction in online education.

The Relationships Between Selected Instructors' Demographic Variables (Age, Gender, Years of Teaching Experience, and Country of Graduation) and Their Attitudes Toward Using Online Continuing Education at KFMC

The research found that instructors' age was the only variable that has a significant correlation with their attitude towards online education. Although the study showed that the majority of instructors had positive attitudes towards implementing online education at KFMC, older instructors reported the least positive responses compared to younger ones. This finding is not surprising since older people tend to prefer the traditional methods of education because it is aligned with their experiences. In addition, older people use and utility of new technology is not expected to be as that of younger generations. This finding may also be due to the older instructors' understanding that online education is an extra workload that the administration may

not consider. The finding contradicts the research of Schifter (2002) who found that age did not affect faculty participation in online education.

The results of this study found no significant relationships between other demographic variables (gender, experience and country of graduation) and the instructors' attitude towards online education at KFMC. It contradicts Sadik (2007) who found that instructors' experience was significantly related to their attitude towards online education at the South University Valley in Egypt. Findings of this research support that of AL-Sarrani (2010) who stated that the instructors' country of graduation or gender were not significantly related to their attitude towards implementation of blended education at Taibah University in Saudi Arabia. In a study conducted in Saudi Arabia, AlGhamdi (2009) found no significant difference between male and female dermatologists in their use of the internet.

Administration's Attitudes Towards the Provision of Online Continuing Education at KFMC

The overall attitude of administrators at KFMC towards the implementation of online education was positive with an overall mean value of 3.88. This result is consistent with the findings of Alharbi (2002) which demonstrated a positive attitude of the administrators towards implementing online education at Imam Mohammad Ben Saud University in Saudi Arabia.

The results of this study show that the majority of administrators at KFMC believe that online education in general is not as effective as face to face education. This perception is not surprising because the overall perception about online education is negative in the eyes of higher education authorities. This is supported by the fact that the ministry of higher education in Saudi Arabia does not recognize degrees obtained online. However, perceptions are changing and the

Ministry of Higher Education is currently setting rules and guidelines to support and facilitate online education at the Saudi universities.

On the contrary, this research showed that the administrators at KFMC agreed that online education is an efficient method which will help improve access to training for female employees. In addition, they agreed that online technologies will facilitate collaboration with national and international organizations. Furthermore, administrators believed that online technologies are an efficient method to deliver education.

This finding suggests that administrators at KFMC do not evaluate alternative decisions based on their perceptions, but based on the alternative's efficiency. In addition, administrators at KFMC seem to value collaboration with local, regional and international organizations.

The Relationship Between the Level of the Administration and Their Attitudes Towards Using Online Continuing Education at KFMC

The purpose of this question was to examine the degree of support expected from different managerial levels. The results of this study showed that the vast majority of administrators have positive attitude towards implementing online education at KFMC. However, there was no significant relationship between the managerial level and the attitude towards online education. Therefore, there is no significant difference between higher administration (executive officers, associate executive officers or hospital directors), middle administration (department head or section manager) or lower level of administration (supervisors) and their attitude towards online education. This finding suggests that there is an alignment between the three managerial levels regarding the implementation of online education at KFMC. Alignment between different managerial levels in governmentally operated

organizations may minimize the change resistance that is expected when implementing new interventions.

Limitations of the Study

The research for this study was conducted in a tertiary healthcare organization which is a governmentally funded organization that receives more funds than secondary healthcare organizations. Therefore, the results are limited to tertiary healthcare organizations that receive similar funding from the government. In addition, the results of this research are limited to Saudi Arabia and may not be generalized to other regional countries that may not have the same e-learning infrastructure. This study was conducted in Riyadh, the capital city of Saudi Arabia, where more resources (human, physical and financial) are available compared to other cities; therefore, the results of this study may not be generalized to smaller cities in Saudi Arabia.

All efforts were made to assure that all items in both surveys are clear and easy to understand by respondents. However, since this is a survey research approach, respondents may have misinterpreted some of the survey items. Since the quantitative data used to complete this research were self reported by respondents, factors such as respondents' memory, perception, recent experiences may have influenced the data provided. These factors are also seen as limitations to this study.

Implications

Online education is perceived as an efficient method by the majority of KFMC's staff, administrators and instructors. However, the adoption of new ideas is determined by many factors. This section analyzes the expected implications of the results of this study on KFMC. In addition, the adoption of innovation theory is used to guide this analysis.

Rogers stated that organizations will usually adopt new ideas if these ideas have relative advantage to the organization, were compatible with the organizations' culture, were perceived as simple to be understood and utilized, were trialable and that the advantages of these ideas can be observed (Sanson-Fisher, 2004).

The research found that the attitude of administrators and instructors was positive towards the implementation of online education at KFMC which suggests that online education is seen as an advantageous method of teaching to KFMC. In addition, employees at KFMC reported in this study that online education is important to their success (mean=4.34). Therefore, employees also see a relative advantage in implementing online education at KFMC.

Education in Saudi Arabia is segregated at all levels (primary, intermediate, secondary and higher education) where male students are separated from female students in classrooms. Online education in Saudi Arabia is seen as an efficient solution that reduces the cost and improves the access to education. Although education at KFMC is provided to both male and female staff equally, both genders may see online education as a relevant educational environment that is compatible with their cultural norms. In addition, the provision of online education may be seen as a better solution to overcrowded educational classes at KFMC. It is, therefore, concluded that the provision of online education at KFMC does not conflict with the values and culture of the organization or with the cultural norms of the society.

Only 25% of employees reported that they had online experience in the past while the majority (75%) reported that they had no previous online experience. The findings of this study also indicate that the majority of employees have good online skills and relationships (mean=4.33), online audio and video skills (mean=4.04) and internet discussion ability (mean=3.98). These findings suggest that employees should not perceive online education as a

complex experience because they possess the necessary skills that should enable them to use online education without facing major technical problems.

Online education should be tried initially with the administrative staff since they were found to have better internet discussion ability than other professions at KFMC. Administrative instructions (such as communication skills, dispute resolution, and facilitation) can be purchased and used at KFMC. These courses should be customized to KFMC's needs before its use. These instructions should then be evaluated based on the predetermined objectives. The findings of the evaluation can then be assessed to determine the effectiveness of these online training instructions based on the employees' outcomes. It is therefore, feasible to try and observe the effectiveness of online education at KFMC.

Recognition of online education by educational authorities in Saudi Arabia is expected to enhance the overall attitude towards online education. It is also critical that online instructions are designed and implemented using scientific methods by instructional technologists. Since online instruction is a new idea that may be challenged initially at KFMC, it is important that the experience is assessed, analyzed, designed, developed, implemented and evaluated by instructional designers to assure optimum construction of each component of the experience.

In conclusion, online education is a new idea that has a great chance of being adopted by KFMC based on Rogers' diffusion of innovation theory. Online education has a relative advantage for KFMC employees, administrators and instructors. Administrators' and instructors' attitudes toward online education at KFMC are positive and employees were found to have the necessary skills to succeed in online education. Therefore, online education at KFMC can be utilized to develop the knowledge and skills of KFMC's staff. In addition, online education neither conflicts with the values and culture of KFMC nor its human resources nor with the

culture and values of Saudi Arabia. The employees at KFMC were found to be ready for online education in regard to their technical skills which suggest that they will not perceive online education as a complex experience. Finally, the results of this study found that the majority of employees have access to the internet at home and at work. Therefore, online education at KFMC can be tried without spending resources on building the infrastructure. The results and outcomes of online education at KFMC can then be observed and evaluated at the work, worker and workplace levels.

Recommendations for Policy Makers at KFMC

The results of this study found that employees at KFMC have a positive attitude towards online education and that their access to technology at home and at work is excellent (>90% of employees have access to computers with internet connection at home and work). However, employees' motivation was the least positive dimension. Although both genders at KFMC were found to be motivated towards the provision of online education at KFMC, the results showed that female employees were less motivated to online education compared to male staff. In addition, employees who reported having previous online experience were less motivated than those who did not have previous online courses. Generally, employees at KFMC were found to be ready for online education in regard to their access to technology, technical skills, motivation to e-learn and attitudes towards online education.

Administrators at KFMC have a negative perception about online education in general. Most administrators believe that online education is not as effective as traditional education (mean=2.83). However, their attitude towards implementing online education was positive (mean=3.88). In addition, different managerial levels at KFMC (upper management, middle management and lower management) did not seem to differ in their attitude towards

implementing online education. Instructors' overall attitude towards the implementation of online education was positive (mean=3.76). Most of them believed that online education is not as effective as traditional education (mean=2.44). It was also found that older instructors were less positive to online education than younger instructors.

These findings can then be used to recommend the following suggestions:

1. All online and blended courses that are provided at KFMC should be designed by specialists in the field of instructional technology to make sure that these courses comply with scientific recommendations. This suggestion should help rebuild employees' motivation towards online education as well as administrators' and instructors' attitude towards e-learning.
2. It is also recommended that academic affairs work closely with the information technology at KFMC to assure their engagement in the process of developing and supporting online education at KFMC. Good and timely technical support is very important to assure the effectiveness of online education and to improve the motivation of learners and the attitudes of instructors (Cerny & Heines, 2001; Mayzer & Dejong, 2003).
3. Online education should be introduced gradually at KFMC by providing blended education (a blend of face to face and online components) in order to bridge the gap between traditional and online education.
4. Early blended instructions at KFMC should be related to administrative employees' daily work since administrative staff ranked highest in the "internet discussion abilities" dimension when compared to other occupations at KFMC.

5. Administrators at KFMC's academic affairs should develop educational strategies with clear educational objectives in order to evaluate the value added by online education in the future.
6. Administrators should expect that the startup cost of online education will be high, but overtime the cost is going to decrease and will be less than the cost of traditional education in the near future.
7. Administrators should not decide to start blended and full online education until all resources are available.
8. Administrators should develop policies for online education that include instructors' competencies in online education, accreditation of online courses from local and international authorities, equivalency of online credit hours and other policies regarding the international collaboration.
9. Policies for compensating instructors for online education should also be developed.
10. Administrators should also consider training current instructors in online education and prepare them for a different method of education.
11. Administrators at KFMC should bench mark local and international healthcare organization that provide blended or online education and use best practices.
12. Initial blended and online courses provided at KFMC should be accredited by local authorities.
13. Administrators at KFMC should design and build an online educational center. This educational center should be of great benefit to KFMC's internal and external customers as well as other local Ministry of Health's hospitals and primary clinics. Future

development of this center may benefit ministry of health's hospitals in the rest of Saudi Arabia and hospitals in other regional countries.

14. The KFMC medical library should support scholarly professional journals and monographs in the area of online education, instructional design, instructional strategies and delivery, performance improvement, competency development, and evaluation.
15. Authorities should consider launching a marketing campaign to change perception of online instruction and eventually to recognize it as a viable option to other more traditional routes to learning, certification, and licensure.

Recommendations for Future Research

This research was conducted in Riyadh, the capital city of Saudi Arabia, at King Fahad Medical City, a tertiary healthcare organization that is directly related to the ministry of health in Saudi Arabia. The main purpose of this study is to assess the degree to which KFMC is ready to adopt online education for its educational needs. Most healthcare organizations in the world spend part of its budget to provide its employees with educational activities in their disciplines because continuous development of staff's knowledge and skills by means of education and training is critical to continuous quality improvement. Therefore, future research in Saudi Arabia should focus on the following:

1. The online readiness of other tertiary healthcare organizations in other cities of Saudi Arabia.
2. The online readiness of secondary healthcare hospitals in Saudi Arabia
3. The online readiness of primary healthcare clinics in Saudi Arabia
4. An evaluation of currently available online education in healthcare organizations in Saudi Arabia.

5. Evaluating the online readiness of healthcare professionals graduating from Saudi Universities.

This chapter discussed the findings of the research and how they are related to similar research studies. The research presented here is the first in the region to discuss the readiness of healthcare organizations to adopt online education. The results of the research were discussed in relation to existing research findings. Recommendations were driven from the synthesis of these findings.

Summary

Saudi Arabia is currently evaluating the different approaches to education in general. Since 2005, the country has launched many programs to evaluate and restructure both general education and higher education. Serious efforts were made to examine online education and develop guidelines to its use in higher education. Online education can provide healthcare organizations in Saudi Arabia with efficient method of education.

This research examined the readiness of King Fahad Medical City in Riyadh, Saudi Arabia, to adopt online education. Online education can be used to develop the skills, knowledge and competence of medical and non-medical staff in healthcare organizations. However, infrastructure must be ready to utilize online education. In addition, major stakeholders of the education process (learners, instructors and administrators) must be ready to e-learn. Assessing the readiness of major stakeholders to adopt online education can help determine the worth of investing in such innovative learning method.

This research used two surveys to collect data from employees, instructors and administrators at King Fahad Medical City. 508 employees' surveys and 164 administrators' and instructors' surveys were analyzed. Research Questions 1,2 and 6 were analyzed using

descriptive analysis while Questions 3,4,5 and 7 were analyzed using Spearman's correlation coefficient.

The results of this research suggest that employees at King Fahad Medical City are ready to take part in online education. They have access to technology at work and at home and their attitude towards online education is positive. Employees are motivated to learn online and their technical skills are acceptable and suggestive of success.

Administrators at all managerial levels are supportive of online education and have positive attitude towards implementing online education at KFMC. In addition, instructors have positive attitudes towards the provision of online education.

In the future online education will provide opportunities for work and for enrichment for the people of Saudi Arabia and ultimately alter the way in which education, training, and above all learning are delivered.

**APPENDIX A: APPROVAL FROM THE HUMAN INVESTIGATION COMMITTEE AT
WAYNE STATE UNIVERSITY**

**WAYNE STATE
UNIVERSITY**

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CONCURRENCE OF EXEMPTION

To: Adnan Alwadie
Administration & Organization Stud

From: Ellen Barton, Ph.D. *E. Barton*
Chairperson, Behavioral Institutional Review Board (B3)

Date: March 05, 2010

RE: HIC #: 027810B3X

Protocol Title: An Assessment of the Readiness of King Fahad Medical City, Saudi Arabia, in Adopting Effective Online Staff Development Programs

Sponsor:

Protocol #: 1002008110

The above-referenced protocol has been reviewed and found to qualify for **Exemption** according to paragraph #2 of the Department of Health and Human Services Code of Federal Regulations [45 CFR 46.101(b)].

- Information Sheet (English and Arabic versions)

This proposal has not been evaluated for scientific merit, except to weight the risk to the human subjects in relation to the potential benefits.

- Exempt protocols do not require annual review by the IRB.
- All changes or amendments to the above-referenced protocol require review and approval by the HIC **BEFORE** implementation.
- Adverse Reactions/Unexpected Events (AR/UE) must be submitted on the appropriate form within the timeframe specified in the HIC Policy (<http://www.hic.wayne.edu/hicpol.html>).

NOTE:

1. Forms should be downloaded from the HIC website at each use.
2. Submit a Closure Form to the HIC Office upon completion of the study.

**APPENDIX B: APPROVAL LETTER FROM KING FAHAD MEDICAL CITY'S
INSTITUTIONAL REVIEW BOARD**

Kingdom of Saudi Arabia
Ministry of Health
King Fahd Medical City



**المملكة العربية السعودية
وزارة الصحة
مدينة الملك فهد الطبية**

February 20th 2010
ERRC Number: 10-003
IRB Number: 10-015

Dear Mr. Adnan Alwadie,

It is my pleasure to inform you that the External Research Review Committee, a subcommittee of the Institutional Review Board, has approved your study titled: **“An Assessment of the Readiness of King Fahad Medical City, Saudi Arabia, in Adopting Effective Online Staff Development Programs”**.

Please be informed that in conducting this study, you as the Principal Investigator is required to abide by the rules and regulations of the Government of Saudi Arabia and KFMC/ERRC. The approval of this proposal will automatically be suspended on February 20th 2010 pending the reapplication to renew the approval. You also need to notify the ERRC as soon as possible in the case of:

1. Any amendments to the project;
2. Termination of the study.

Please observe the following:

1. Personal identifying data should only be collected when necessary for research;
2. The data collected should only be used for this proposal;
3. Data should be stored securely so that only a few authorized users are permitted access to the database;
4. Secondary disclosure of personal identifiable data is not allowed.

We wish you every success in your research endeavor.

If you have any further questions feel free to contact me.

Sincerely,

Mohamad AlTannir, DMD, MPH
Head of External Review Committee
Institutional Review Board
King Fahad Medical City, Riyadh/ KSA
Tel:9662889999 Ext.8391
Email: maltannir@kfmc.med.sa

المرفقات :

الرقم :

التاريخ :

APPENDIX C: THE FACULTY AND ADMINISTRATOR SURVEY

معلومات البحث

عنوان البحث: تقدير مدى جاهزية مدينة الملك فهد الطبيه، في المملكة العربية السعوديه، لاستخدام التعليم الالكتروني الفعال لتوفير برامج تطوير اداء الموظفين

الباحث الرئيسي:

عدنان ظافر الوداعي
قسم الدراسات الإداريه والتنظيميه بكلية التعليم
جامعة وين ستيت بديترويت، الولايات المتحدة الاميركيه
تلفون 3135443938

الهدف: لقد تم اختيارك للمشاركة في هذه الدراسه والتي تهدف الى بحث مدى جاهزية المدينه الطبيه لاستخدام التعليم الالكتروني وذلك لانك كموظف تمثل احد الركائز الاساسيه في تحديد جاهزية المنشأه. يتم اجراء هذا البحث في مدينة الملك فهد الطبيه بالمملكه العربيه السعوديه ويتوقع مشاركة 400 موظف بالاجابه على هذه الاستبانته. ارجو منك قراءة محتوى هذه الصفحه وطرح أي تساؤل قبل الاجابه على الاستبانته.

طريقة البحث: اذا وافقت على المشاركة في هذا البحث فانه يتوقع منك الاجابه على اسئله الاستبانته المرفقه بشكل كامل ودقيق ومن ثم وضعها في الصندوق المخصص لتجميعها في قسمك (كما يمكنك ارسالها الى مركز الابحاث بالشئون الاكاديميه والتدريب بالمدينه عن طريق البريد الداخلي). تشتمل الاسئله في هذا البحث على اسئله شخصيه (مثل الوظيفه والجنس والخبره) وكذلك اسئله تقنيه لقياس توجهاتك بخصوص التعليم الالكتروني. يتوقع ان تستغرق الاجابه على الاستبانته 10 دقائق.

الفوائد المتوقعه: كمشارك في هذا البحث قد لا تحصل على فائده مباشره ولكن نتيجة هذا البحث قد يستفيد منها اشخاص اخرون حاليا أو مستقبلا.

الاطار المحتمل: ليس هناك أخطار معلومه مترتبه على المشاركة في هذا البحث.

قيمة المشاركة: المشاركة في هذا البحث لا يترتب عليها مطالبتك بأي مبالغ ماليه.

التعويض: لن يتم تعويضك مقابل المشاركة في هذا البحث.

سريه المعلومات: سيتم التعامل مع المعلومات التي ستدلي بها بسريه تامه وسوف تستخدم لاجل اتمام هذا البحث فقط. كما ان الباحث لن يتمكن من التعرف على الاشخاص المشاركين في البحث.

حرية المشاركة في البحث: لك كامل الحريه في المشاركة او عدمها في هذا البحث كما ان لك الحريه في الانسحاب من المشاركة في اي وقت ترغب ولن يؤثر قرارك بعدم المشاركة على المنافع التي تحصل عليها حاليا من المدينه الطبيه ولا على اي منافع اخرى قد تحصل عليها مستقبلا.

أسئله: اذا كان لديك اي اسئله بخصوص هذا البحث يمكنك الاتصال بالباحث الرئيسي (عدنان الوداعي) على هاتف 3135443938. اذا كان لديك اي استفسار عن حقوقك كمشارك في البحث يمكنك الاتصال برئيس لجنة اخلاقيات الابحاث بجامعة وين ستيت على تلفون 3135771628. كذلك يمكنك الاتصال بمركز الابحاث بالمدينه الطبيه على تلفون 2889999 تحويله 1299

المشاركة: بالاجابه على الاسئله في هذه الاستبانته فانك توافق على المشاركة في هذا البحث.

APPROVED

MAR 05 2010

WAYNE STATE UNIVERSITY
HUMAN INVESTIGATION COMMITTEE

Behavioral Research Information Sheet

Title of Study: An Assessment of the Readiness of King Fahad Medical City, Saudi Arabia, in Adopting
Effective Online Staff Development Programs

Principal Investigator (PI): Adnan Dhafer Alwadie
Administrative & Organizational Studies, College of Education
313 544 3938

Purpose: You are being asked to be in a research study of the readiness of KFMC to use online education because you are among the critical determinants of KFMC's readiness. This study is being conducted at King Fahad Medical City. The estimated number of study participants to be enrolled at KFMC is about 400. **Please read this form and ask any questions you may have before agreeing to be in the study.**

In this research study, the attitudes and skills of participants will be assessed in order to determine the strengths and weaknesses that KFMC has in regard to the use of online education. This study will use a survey to assess the employees' the administrators' and the instructors' behaviors and attitudes towards online education in healthcare organizations. In addition, the participants' skills and access to technology will be evaluated.

Study procedures: If you agree to take part in this research study, you will be asked to answer the attached survey as accurate and complete as possible and place them in the designated boxes available in your department (or send it to the research center in the academic affairs through internal mail). The questions included here ask about some personal information (such as occupation, gender, experience) and technical questions to assess your attitudes towards online education. In addition, questions about the access to computers and internet will be asked. Answering this survey is expected to take 10 minutes. Please don't write your name or department on the questionnaire.

Benefits: As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks: There are no known risks at this time to participation in this study.

Study Costs: Participation in this study will be of no cost to you.

Compensation: You will not be paid for taking part in this study.

Confidentiality: Your identity will not be identified in this. However, all information collected during the course of this study will be kept confidential to the extent permitted by law.

Voluntary Participation/Withdrawal: Taking part in this study is voluntary. You have the right to choose not to take part in this study. Your decisions will not change any present or future relationship with Wayne State University or KFMC, or other services you are entitled to receive.

Questions: If you have any questions about this study now or in the future, you may contact Adnan Alwadie at the following phone number 313 544 3938. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints. You can also contact the research center at KFMC at 2889999 Ext. 1299

Participation: By completing the questionnaire, you are agreeing to participate in this study.

APPROVED

MAR 05 2010

WAYNE STATE UNIVERSITY
HUMAN INVESTIGATION COMMITTEE

Part I. Demographic and job-related variables

Please check the appropriate box

1. Nature of daily work	1) <input type="checkbox"/> Administrative
	2) <input type="checkbox"/> Training / Education

2. If administrative, what is your managerial level?	1) <input type="checkbox"/> Executive officer (EO) or Associate executive officer
	2) <input type="checkbox"/> Hospital director
	3) <input type="checkbox"/> Department head
	4) <input type="checkbox"/> Section manager
	5) <input type="checkbox"/> Other

3. If your current work is education, have you taught online before?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

4. Experience in current jobYears
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5. Educational level	1) <input type="checkbox"/> High School OR Less
	2) <input type="checkbox"/> Diploma (After High School)
	3) <input type="checkbox"/> University Degree
	4) <input type="checkbox"/> Post – Graduate

6. From which country did you graduate?	1) <input type="checkbox"/> Saudi Arabia
	2) <input type="checkbox"/> Other Arab country
	3) <input type="checkbox"/> Western country
	4) <input type="checkbox"/> Eastern country
	5) <input type="checkbox"/> Others

الجزء الاول. أسئلته تتعلق بالعمل وبالوضع الشخصي

الرجاء وضع علامة (√) أمام الاختيار المناسب

طبيعة عملك اليومي	1) <input type="checkbox"/> اداري
	2) <input type="checkbox"/> تدريب / تعليم

إذا كنت اداري ارجو الاختيار من هذه القائمة	1) <input type="checkbox"/> مدير تنفيذي أو مدير تنفيذي مشارك
	2) <input type="checkbox"/> مدير مستشفى
	3) <input type="checkbox"/> مدير ادارة
	4) <input type="checkbox"/> مدير قسم
	5) <input type="checkbox"/> اخرى

إذا كنت تعمل حالياً في التدريب فهل سبق وأن قمت بتدريس مادة عبر الإنترنت؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

عدد سنوات الخبرة في عملك الحاليسنة
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المستوى التعليمي	1) <input type="checkbox"/> الثانويه العامه أو أقل
	2) <input type="checkbox"/> دبلوم (بعد الثانويه)
	3) <input type="checkbox"/> شهاده جامعيه
	4) <input type="checkbox"/> فوق الجامعي

من اي بلد حصلت على اخر مؤهل علمي	1) <input type="checkbox"/> المملكه العربيه السعوديه
	2) <input type="checkbox"/> احدى الدول العربيه الاخرى
	3) <input type="checkbox"/> احدى الدول الغربيه
	4) <input type="checkbox"/> احدى الدول الشرقيه
	5) <input type="checkbox"/> اخرى

Continued part I. Demographic and job-related variables

Please check the appropriate box

7. Do you have access to computer at home?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

8. Do you have internet access at home?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

9. Do you have access to computer at work?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

10. Do you have internet access at work?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

11. Age	1) <input type="checkbox"/> 20 years – less than 30
	2) <input type="checkbox"/> 30 years – less than 40
	3) <input type="checkbox"/> 40 years – less than 50
	4) <input type="checkbox"/> 50 years and older

12. Gender	1) <input type="checkbox"/> Male
	2) <input type="checkbox"/> Female

13. Nationality	1) <input type="checkbox"/> Saudi
	2) <input type="checkbox"/> Non -Saudi

تابع الجزء الاول. أسئلته تتعلق بالعمل وبالوضع الشخصي

الرجاء وضع علامة (√) أمام الاختيار المناسب

هل لديك حاسب الي في المنزل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

هل لديك انترنت في المنزل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

هل لديك حاسب الي في العمل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

هل لديك انترنت في العمل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

العمر	1) <input type="checkbox"/> من ٢٠ سنه - اقل من ٣٠ سنه
	2) <input type="checkbox"/> من ٣٠ سنه - اقل من ٤٠ سنه
	3) <input type="checkbox"/> من ٤٠ سنه - اقل من ٥٠ سنه
	4) <input type="checkbox"/> ٥٠ عام فأكثر

الجنس	1) <input type="checkbox"/> ذكر
	2) <input type="checkbox"/> أنثى

الجنسيه	1) <input type="checkbox"/> سعودي
	2) <input type="checkbox"/> غير سعودي

Part II. Attitudes towards online education

الجزء الثاني. الاتجاهات نحو تبني التعليم الالكتروني

To what extent do you agree or disagree with the following statements?

الى اي مدى توافق او لاتوافق على العبارات التاليه؟

Please check the appropriate box

الرجاء وضع علامة (✓) أمام الاختيار المناسب

	5 Strongly Agree موافق تماماً	4 Agree موافق	3 Not Sure غير متأكد	2 Disagree غير موافق	1 Strongly Disagree غير موافق تماماً	العبارة
1	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" وسيله مناسبه لنقل المعرفة (العلم)
2	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	انا مهتم بتطبيق "التدريس عبر الانترنت" لنقل الدروس والمحاضرات
3	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" سوف يساهم في حل مشكلة ازدحام برامج التعليم المستمر
4	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد ان استخدام "التدريس عبر الانترنت" لن يكون بكفاءة الطرق التقليديه
5	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	استخدام "التدريس عبر الانترنت" سوف يزيد من تعقيد عملي
6	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ليس لدي الوقت الكافي للتدرب على استخدام تقنيات التعلم عن بعد
7	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	لا احبذ استخدام "التدريس عبر الانترنت" في مجال عملي
8	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	انا مهتم باستقبال المحاضرات عبر الانترنت
9	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد ان مكان عملي مهتم باستخدام الانترنت كوسيله للتعليم المستمر
10	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" يعطي فرصه التعليم بالتعاون مع منشآت صحيه اخرى داخل وخارج السعوديه
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	استخدام الوسائل السمعيه والبصريه في نقل المحاضرات عبر الانترنت تساعد على تحسين مقدرة الطالب على التعلم
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" لا يتعارض مع القيم الثقافيه والاجتماعيه في السعوديه

Continued part II. Attitudes towards online education

تابع الجزء الثاني، الاتجاهات نحو تبني التعليم الإلكتروني

To what extent do you agree or disagree with the following statements?

الى اي مدى توافق او لاتوافق على العبارات التاليه؟

Please check the appropriate box

الرجاء وضع علامة صح (✓) أمام الاختيار المناسب

Statement	5 Strongly Agree موافق تماماً	4 Agree موافق	3 Not Sure غير متأكد	2 Disagree غير موافق	1 Strongly Disagree غير موافق تماماً	العبارة
13 I believe that employees at KFMC will be interested in taking online continuing education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد ان الموظفين في هذه المنشأة سيقبلون على استخدام البرامج التدريبية على الانترنت
14 Providing courses through the internet will give teachers and students an opportunity to communicate directly, as if they were in the same classroom	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" يعطي الطالب والمدرس الفرصة للتواصل كما في المحاضرات التقليدية
15 Adopting online courses will create a challenge for administrators and policy makers at KFMC	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" سوف يخلق مشكلات للدارسين وصانعي القرار في هذه المنشأة
16 Online education will improve the access to continuing education for female employees	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" سوف يحسن فرصة حصول الموظفات على التعليم المستمر
17 Web based course will help my professional development	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	"التدريس عبر الانترنت" سوف يسهم في تطوري العلمي والعملية
18 I am willing to collaborate with specialists to design and develop online education programs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	انا ارجب في التعاون مع الاختصاصيين في مجال تصميم البرامج التعليمية المنقولة عن طريق الانترنت
19 At this time, I am not interested in learning about online education	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	ليس لدي الرغبة في الوقت الحاضر لتعلم كيفية استخدام الانترنت في نقل البرامج التعليمية

APPENDIX D: THE ONLINE LEARNER READINESS SELF-ASSESSMENT SURVEY

معلومات البحث

عنوان البحث: تقدير مدى جاهزية مدينة الملك فهد الطبيه، في المملكة العربية السعوديه، لاستخدام التعليم الالكتروني الفعال لتوفير برامج تطوير اداء الموظفين

الباحث الرئيسي:

عدنان ظافر الوداعي

قسم الدراسات الاداريه والتنظيميه بكلية التعليم

جامعة وين ستيت بديترويت، الولايات المتحدة الاميركيه

تلفون 3135443938

الهدف: لقد تم اختيارك للمشاركة في هذه الدراسه والتي تهدف الى بحث مدى جاهزية المدينه الطبيه لاستخدام التعليم الالكتروني وذلك لانك كموظف تمثل احد الركائز الاساسيه في تحديد جاهزية المنشأه. يتم اجراء هذا البحث في مدينة الملك فهد الطبيه بالمملكه العربيه السعوديه ويتوقع مشاركة 400 موظف بالاجابه على هذه الاستبانه. ارجو منك قراءة محتوى هذه الصفحه وطرح أي تساؤل قبل الاجابه على الاستبانه.

طريقة البحث: اذا وافقت على المشاركة في هذا البحث فانه يتوقع منك الاجابه على اسئله الاستبانه المرفقه بشكل كامل ودقيق ومن ثم وضعها في الصندوق المخصص لتجميعها في قسمك (كما يمكنك ارسالها الى مركز الابحاث بالشنون الاكاديميه والتدريب بالمدينه عن طريق البريد الداخلي). تشتمل الاسئله في هذا البحث على اسئله شخصيه (مثل الوظيفه والجنس والخبره) وكذلك اسئله تقنيه لقياس توجهاتك بخصوص التعليم الالكتروني. يتوقع ان تستغرق الاجابه على الاستبانه 10 دقائق.

الفوائد المتوقعه: كمشارك في هذا البحث قد لا تحصل على فائده مباشره ولكن نتيجة هذا البحث قد يستفيد منها اشخاص اخرون حاليا أو مستقبلا.

الاطار المحتمل: ليس هناك أخطار معلومه مترتبه على المشاركة في هذا البحث.

قيمة المشاركة: المشاركة في هذا البحث لا يترتب عليها مطالبتك بأي مبالغ ماليه.

التعويض: لن يتم تعويضك مقابل المشاركة في هذا البحث.

سريه المعلومات: سيتم التعامل مع المعلومات التي ستدلي بها بسريه تامه وسوف تستخدم لاجل اتمام هذا البحث فقط. كما ان الباحث لن يتمكن من التعرف على الاشخاص المشاركين في البحث.

حرية المشاركة في البحث: لك كامل الحريه في المشاركة او عدمها في هذا البحث كما ان لك الحريه في الانسحاب من المشاركة في اي وقت ترغب ولن يؤثر قرارك بعدم المشاركة على المنافع التي تحصل عليها حاليا من المدينه الطبيه ولا على اي منافع اخرى قد تحصل عليها مستقبلا.

أسئله: اذا كان لديك اي اسئله بخصوص هذا البحث يمكنك الاتصال بالباحث الرئيسي (عدنان الوداعي) على هاتف 3135443938. اذا كان لديك اي استفسار عن حقوقك كمشارك في البحث يمكنك الاتصال برئيس لجنة اخلاقيات الابحاث بجامعة وين ستيت على تلفون 3135771628. كذلك يمكنك الاتصال بمركز الابحاث بالمدينه الطبيه على تلفون 2889999 تحويله 1299

المشاركة: بالاجابه على الاسئله في هذه الاستبانه فانك توافق على المشاركة في هذا البحث.

APPROVED

MAR 05 2010

WAYNE STATE UNIVERSITY
HUMAN INVESTIGATION COMMITTEE

Behavioral Research Information Sheet

Title of Study: An Assessment of the Readiness of King Fahad Medical City, Saudi Arabia, in Adopting Effective Online Staff Development Programs

Principal Investigator (PI): Adnan Dhafer Alwadie
Administrative & Organizational Studies, College of Education
313 544 3938

Purpose: You are being asked to be in a research study of the readiness of KFMC to use online education because you are among the critical determinants of KFMC's readiness. This study is being conducted at King Fahad Medical City. The estimated number of study participants to be enrolled at KFMC is about 400. **Please read this form and ask any questions you may have before agreeing to be in the study.**

In this research study, the attitudes and skills of participants will be assessed in order to determine the strengths and weaknesses that KFMC has in regard to the use of online education. This study will use a survey to assess the employees' the administrators' and the instructors' behaviors and attitudes towards online education in healthcare organizations. In addition, the participants' skills and access to technology will be evaluated.

Study procedures: If you agree to take part in this research study, you will be asked to answer the attached survey as accurate and complete as possible and place them in the designated boxes available in your department (or send it to the research center in the academic affairs through internal mail). The questions included here ask about some personal information (such as occupation, gender, experience) and technical questions to assess your attitudes towards online education. In addition, questions about the access to computers and internet will be asked. Answering this survey is expected to take 10 minutes. Please don't write your name or department on the questionnaire.

Benefits: As a participant in this research study, there will be no direct benefit for you; however, information from this study may benefit other people now or in the future.

Risks: There are no known risks at this time to participation in this study.

Study Costs: Participation in this study will be of no cost to you.

Compensation: You will not be paid for taking part in this study.

Confidentiality: Your identity will not be identified in this. However, all information collected during the course of this study will be kept confidential to the extent permitted by law.

Voluntary Participation/Withdrawal: Taking part in this study is voluntary. You have the right to choose not to take part in this study. Your decisions will not change any present or future relationship with Wayne State University or KFMC, or other services you are entitled to receive.

Questions: If you have any questions about this study now or in the future, you may contact Adnan Alwadie at the following phone number 313 544 3938. If you have questions or concerns about your rights as a research participant, the Chair of the Human Investigation Committee can be contacted at (313) 577-1628. If you are unable to contact the research staff, or if you want to talk to someone other than the research staff, you may also call (313) 577-1628 to ask questions or voice concerns or complaints. You can also contact the research center at KFMC at 2889999 Ext. 1299

Participation: By completing the questionnaire, you are agreeing to participate in this study.

APPROVED

MAR 05 2010

WAYNE STATE UNIVERSITY
HUMAN INVESTIGATION COMMITTEE

Part I. Demographic and job-related variables
Please check the appropriate box

1. Occupation	1) <input type="checkbox"/> Physician
	2) <input type="checkbox"/> Nurse
	3) <input type="checkbox"/> Specialist
	4) <input type="checkbox"/> Technician
	5) <input type="checkbox"/> Administrative

2. Experience in current jobYears
------------------------------	------------

3. Have you taken online courses before?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

4. Age	1) <input type="checkbox"/> 20 years – less than 30
	2) <input type="checkbox"/> 30 years – less than 40
	3) <input type="checkbox"/> 40 years – less than 50
	4) <input type="checkbox"/> 50 years and older

5. Gender	1) <input type="checkbox"/> Male
	2) <input type="checkbox"/> Female

6. Nationality	1) <input type="checkbox"/> Saudi
	2) <input type="checkbox"/> Arab (Non -Saudi)
	3) <input type="checkbox"/> Philippines
	4) <input type="checkbox"/> Others

الجزء الاول. أسئلته تتعلق بالعمل وبالوضع الشخصي
الرجاء وضع علامة (√) أمام الاختيار المناسب

1) <input type="checkbox"/> طبيب / طبيبه	طبيعة العمل
2) <input type="checkbox"/> ممرض / ممرضة	
3) <input type="checkbox"/> اخصائي / اخصائية	
4) <input type="checkbox"/> فني / فنيه	
5) <input type="checkbox"/> اداري / اداريه	

..... سنه	عدد سنوات الخبرة في عملك الحالي
-----------	---------------------------------

1) <input type="checkbox"/> نعم	هل سبق لك ان درست اي مادة عن طريق الانترنت؟
2) <input type="checkbox"/> لا	

1) <input type="checkbox"/> من ٢٠ سنه - اقل من ٣٠ سنه	العمر
2) <input type="checkbox"/> من ٣٠ سنه - اقل من ٤٠ سنه	
3) <input type="checkbox"/> من ٤٠ سنه - اقل من ٥٠ سنه	
4) <input type="checkbox"/> ٥٠ عام فاكثر	

1) <input type="checkbox"/> ذكر	الجنس
2) <input type="checkbox"/> أنثى	

1) <input type="checkbox"/> سعودي	الجنسية
2) <input type="checkbox"/> عربي (غير سعودي)	
3) <input type="checkbox"/> فلبيني / فلبينية	
4) <input type="checkbox"/> اخرى	

Continued part I. Demographic and job-related variables

Please check the appropriate box

7. Educational level	1) <input type="checkbox"/> High School OR Less
	2) <input type="checkbox"/> Diploma (After High School)
	3) <input type="checkbox"/> University Degree
	4) <input type="checkbox"/> Post – Graduate

8. Do you have access to computer at home?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

9. Do you have internet access at home?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

10. Do you have access to computer at work?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

11. Do you have internet access at work?	1) <input type="checkbox"/> Yes
	2) <input type="checkbox"/> No

تابع الجزء الاول. أسئله تتعلق بالعمل وبالوضع الشخصي

الرجاء وضع علامة (√) أمام الاختيار المناسب

المستوى التعليمي	1) <input type="checkbox"/> الثانويه العامه أو أقل
	2) <input type="checkbox"/> دبلوم (بعد الثانويه)
	3) <input type="checkbox"/> شهاده جامعيه
	4) <input type="checkbox"/> فوق الجامعي

هل لديك حاسب الي في المنزل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

هل لديك انترنت في المنزل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

هل يوجد حاسب الي بالعمل يمكنك استخدامه؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

هل يمكنك الدخول على الانترنت من العمل؟	1) <input type="checkbox"/> نعم
	2) <input type="checkbox"/> لا

Part II. Factors that contribute to trainee's success in online education

الجزء الثاني. العوامل التي تساهم في استفادة المتدرب من التعليم الإلكتروني

To what extent do you agree or disagree with the following statements?

الى اي مدى توافق او لاتوافق على العبارات التاليه؟

Please check the appropriate box

الرجاء وضع علامة (✓) أمام الاختيار المناسب

		5 Completely Agree تماماً موافق تماماً	4 Strongly Agree بشدة موافق بشدة	3 Not Sure غير متأكد	2 Strongly Disagree غير موافق بشدة	1 Completely Disagree غير موافق تماماً	العبارة
1	I have access to a computer with an internet connection	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	يتوفر لدي جهاز حاسب الي (كومبيوتر) مع اتصال بالانترنت
2	I have access to a fairly new computer (eg. enough RAM, speakers, CD-ROM)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	يتوفر لدي جهاز حاسب الي (كومبيوتر) حديث نوعاً ما (يحتوي على ذاكرة كافية وساعات ومشغل اقراص مدمجه CD)
3	I have access to a computer with adequate software (eg., Microsoft Word, Adobe Acrobat).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	يتوفر لدي جهاز حاسب الي (كومبيوتر) يتوفر به البرامج الاساسيه (مثل مايكروسوفت وورد واكروبات ريدر)
4	I have the basic skills to operate a computer (e.g., saving files, creating folders).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	تتوفر لدي المهارات الاساسيه لتشغيل جهاز الحاسب الالي (الكومبيوتر) مثل انشاء مجلدات جديده وحفظ ملفات
5	I have the basic skills for finding my way around the Internet (e.g., using search engines, entering passwords).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	تتوفر لدي المهارات الاساسيه لتصفح الشبكة العنكبوتيه (الانترنت) مثل استخدام محركات البحث "قول مثلًا" وادخال كلمات السر
6	I can send an email with a file attached.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	يمكنني ان ارفق ملفات مع البريد الإلكتروني ثم ارساله بنجاح
7	I think that I would be comfortable using a computer several times a week to participate in a course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني استخدام جهاز الحاسب الالي (الكومبيوتر) عدة مرات في الاسبوع للمشاركة في برنامج تدريبي
8	I think that I would be able to communicate effectively with others using online technologies (e.g., email, chat).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني التواصل مع الاخرين بشكل فعال باستخدام الوسائل الإلكترونيه (مثل البريد الإلكتروني والمحادثات المباشره "الشات")
9	I think that I would be able to express myself clearly through my writing (e.g., mood, emotions, and humor).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني التعبير عن نفسي بشكل واضح باستخدام الكتابه (مثل حاله نفسيه بشكل عام او المشاعر او المرح)
10	I think that I would be able to use online tools (e.g., email, chat) to work on assignments with students who are in different time zones.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني استخدام الادوات الإلكترونيه (مثل البريد الإلكتروني والمحادثات) للعمل مع متدربين اخرين متواجدين في دول اخرى

Part II continued. Factors that contribute to trainee's success in online education

تابع الجزء الثاني. العوامل التي تساهم في استفادة المتدرب من التعليم الإلكتروني

To what extent do you agree or disagree with the following statements?

الى اي مدى توافق او لاتوافق على العبارات التاليه؟

Please check the appropriate box

الرجاء وضع علامة (✓) أمام الاختيار المناسب

	5 Completely Agree موافق تماماً	4 Strongly Agree موافق بشده	3 Not Sure غير متأكد	2 Strongly Disagree غير موافق بشده	1 Completely Disagree غير موافق تماماً	العبارة
11	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني ترتيب جدولتي الزمني بحيث استطيع ان اتواصل مع المدرب او المتدربين الاخرين في الوقت المحدد
12	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني طرح اسئله و مقترحات مكتوبه بشكل واضح
13	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد ان رغبتني في الاستمرار في البرنامج التدريبي لن تتوانى بالرغم من عدم وجود المدرب على الشبكة العنكبوتيه (الانترنت) بشكل مستمر
14	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني انجاز متطلبات البرنامج التدريبي بالرغم من وجود مايشنت الانتباه على الشبكة العنكبوتيه (الانترنت) (مثل وصول ايميلات من الاصدقاء او وجود مواقع الكترونيه متعه)
15	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني انجاز متطلبات البرنامج التدريبي بالرغم من وجود مايشنت الانتباه في المنزل (مثل التلفزيون والاطفال)
16	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني ربط محتوى مقاطع الفيديو القصيره (1-3 دقائق) مع ما قرأته على الشبكة العنكبوتيه (الانترنت) او في الكتب
17	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني كتابة ملاحظات اثناء مشاهدة مقطع فيديو على جهاز الحاسب الالي (الكمبيوتر)
18	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني فهم المعلومات ذات العلاقه بالبرنامج التدريبي عندما تقدم عن طريق مقاطع فيديو

Part II continued. Factors that contribute to trainee's success in online education

تابع الجزء الثاني. العوامل التي تساهم في استفادة المتدرب من التعليم الإلكتروني

To what extent do you agree or disagree with the following statements?

الى اي مدى توافق او لاتوافق على العبارات التاليه؟

Please check the appropriate box

الرجاء وضع علامة صح (✓) أمام الاختيار المناسب

Statement	5 Completely Agree موافق تماماً	4 Strongly Agree موافق بشدة	3 Not Sure غير متأكد	2 Strongly Disagree غير موافق بشدة	1 Completely Disagree غير موافق تماماً	العبارة
19 I think that I would be able to carry on a conversation with others using the Internet (e.g., to Internet chat, instant messenger).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني محادثة الاخرين عن طريق الشبكة العنكبوتيه (الانترنت) باستخدام التقنيات الالكترونيه (مثل المحادثات المباشرة "الشات" والمراسلات الفوريه " الماسنجر ")
20 I think that I would be comfortable having several discussions taking place in the same online chat even though I may not be participating in all of them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	أعتقد أنني سوف أشعر بالارتياح من وجود مجموعة محاورات تجري بنفس الوقت حتى ولو لم اكن مشارك بها جميعاً
21 I think that I would be able to follow along with an online conversation (e.g., Internet chat, instant messenger) while typing.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد انه يمكنني متابعة النقاش المستمر في المحادثات المباشرة "الشات" او المراسلات الفوريه "ماسنجر" في نفس الوقت اللذي اقوم فيه بالطباعه
22 I sometimes prefer to have more time to prepare responses to a question.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	افضل احياناً أن يكون لدي وقت اضافي لتجهيز الرد على سؤال ما
23 Regular contact with the instructor is important to my success in online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد ان اتصالي بشكل مستمر مع المدرب مهم لاستفادتي من التدريب الإلكتروني
24 Quick technical and administrative support is important to my success in online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	الاستجابة التقنيه والاداريه السريعه مهمه لاستفادتي من التدريب الإلكتروني
25 Frequent participation throughout the learning process is important to my success in online coursework.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	المشاركه المستمره والمتكرره خلال دوره التعليميه مهمه لاستفادتي من التدريب الإلكتروني
26 I feel that prior experiences with online technologies (e.g., email, Internet chat, online readings) are important to my success with online course.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد ان الخبرات السابقه في استخدام التقنيات الإلكترونيه (مثل البريد الإلكتروني و المحادثات المباشرة "الشات" والقراءه من شاشة الجهاز) مهمه لاستفادتي من التدريب الإلكتروني
27 The ability to immediately apply course materials is important to my success with online courses.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	اعتقد أن مدى امكانيه تطبيق ما اتعلمه في البرنامج التدريبي مباشرة في مجال عملي يساهم في مدى استفادتي من التدريب الإلكتروني

APPENDIX E: VERIFICATION OF TRANSLATION OF THE SURVEYS

KINGDOM OF SAUDI ARABIA
Ministry of Higher Education
DAMMAM UNIVERSITY



المملكة العربية السعودية
وزارة التعليم العالي
جامعة الدمام
الرمز ()

الرقم: التاريخ: / / هـ المرشقات:

20 January, 2010

Mr. Adnan Alwadie
PhD Candidate
Instructional Technology Program
Wayne State University
Detroit, USA

Dear Adnan,

It was pleasure to review your Arabic translation of the two forms: The Learner Readiness Self-Assessment Survey, and The Faculty and Administration Survey. I found the Arabic translation reflects exactly the meaning conveyed in English language and I believe this translation is very accurate and Valid for the purpose of research.

Wish you the best of luck in your interesting project.

Sincerely,

Ghazi Alotaibi, PhD, RRT

Vice Dean for Academic Affairs
College of Applied Medical Sciences
University of Dammam
Dammam, Saudi Arabia
Phone 0096638577000 ext. 2415
Fax 0096638572872
Email: galotaibi@kfu.edu.sa

Kingdom of Saudi Arabia
Ministry of Health
King Fahad Medical City



المملكة العربية السعودية
وزارة الصحة
مدينة الملك فهد الطبية

IN THE NAME OF ALLAH, MOST GRACIOUS, MOST MERCIFUL

January 23, 2010

To whom it may concern,

This is to certify that I have reviewed the translation of both questionnaires (*The Learner Readiness Self-Assessment Survey* and *the faculty and administration survey*) provided by Mr. Adnan Zafer Al Wadie. Review of the translation was from the Arabic to the English language and that they were accurately translated back to English in a way that is practical, understandable and maintains the meaning. In addition, this is to further certify that I am a native speaker of the Arabic language and a fluent speaker of the English language.

Wayel Ahmed Sharbini, MPH, BSRT, RRT

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Acting Head of Clinical Training Department
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ABSTRACT**AN ASSESSMENT OF THE READINESS OF KING FAHAD MEDICAL CITY, SAUDI ARABIA, IN ADOPTING EFFECTIVE ONLINE STAFF DEVELOPMENT PROGRAMS**

by

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Internet access has grown in Saudi Arabia between 2000 and 2005 by more than 1000% and many governmental organizations are starting to provide part of their services using the internet. In addition, the Ministry of Higher Education has provided funding to all governmental universities to start developing strategies and guidelines for online education. Healthcare services in Saudi Arabia are funded by the government and are provided to all citizens free of charge. In addition, the majority of healthcare workers are expatriates. King Fahad Medical City (KFMC) is a tertiary healthcare organization that provides specialized medical care. To assure quality of medical services at KFMC, medical and administrative employees are provided with continuous staff development programs using traditional methods of education. However, online education is proven to be efficient and provides comparable outcomes to these methods.

The purpose of this research was to investigate the readiness of King Fahad Medical City (KFMC) to adopt online staff development programs. Employees access to technology, technical skills, motivation to e-learn and attitudes towards online education was assessed using The Online Learner Readiness Self-assessment Survey (Appendix D). In addition, instructors' and

administrators' access to technology, attitudes and beliefs about online education was also investigated using The Faculty and Administrator Survey (Appendix C).

Research participants consisted of 508 employees, 100 administrators and 64 instructors. This study used a survey research approach and data were analyzed using descriptive and correlational design. Data were collected from participants using two (2) validated instruments written in both English and Arabic languages. The findings of this research showed that employees had excellent access to technology at home and at work. In addition, they responded positively to all dimensions of the study. Although administrators' belief about online education was not positive, their attitude towards providing online education at KFMC was positive. Instructors' attitude towards online education was also positive. The findings of this research showed that employees are ready to participate in online education. In addition, administrators are expected to support online education practices based on their positive attitude and belief about online education. Instructors' positive attitude suggests that they are also ready to be part of this new educational paradigm.

Based on the findings from this research, it is recommended that KFMC start working gradually towards designing and implementing blended courses. These courses can eventually be offered totally online after allowing stakeholders to transit from traditional to online forms of education. It is highly recommended that the processes of designing, developing, implementing and evaluating blended education and online instructions be assigned to instructional technology professionals to improve the quality of instructions and ultimately enhance learners' motivation. It is also recommended that the initial online instructions are offered to administrative staff since they ranked higher in "internet discussion abilities" dimension. Online instructions should be developed by collaboration between the Academic and Training Affairs department, Information

Technology department and other departments that are relevant to the subject of the instruction. Finally, KFMC is at the position to take the lead in establishing an Online Education Center that provides effective online learning to other Ministry of Health's hospitals around Saudi Arabia to improve access to medical and administrative knowledge and competencies.

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