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An Exploration of Motivational Factors in an Online Professional Development Environment: A Study of Faculty's Intention to Teach Online Courses at King Khalid University

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Abstract

Online professional development is increasingly occupying a large part of the higher education policies. This exploratory study aimed to investigate whether and how the factors of motivation impact faculty intention to teach online. The purpose was to investigate motivational factors in the online professional development environment among faculty at King Khalid University (KKU) in Saudi Arabia (SA). A questionnaire was sent to a cross-sectional sample of faculty at KKU to collect mainly quantitative data. One research question addressed motivational factors in online professional development courses. Motivation was broken down to the factors of Attention, Relevance, Confidence, and Satisfaction (ARCS model) to measure the extent to which these factors can predict faculty intention to teach online courses at KKU. A valid number of (119) participants responded to the survey, (57) were male and (62) were female faculty. The overall findings of this study showed that there was a positive relationship between relevance and faculty intention to teach online courses. The remaining three factors of ARCS model consisting of Attention, Confidence, and Satisfaction; were not found to be individually significant predictors of faculty intention. Findings also showed that motivation significantly and positively predicted faculty intention. The study utilized a homogeneous sample as all the participants belonged to the same university, KKU, and the same country, and so further research is recommended to shed more lights on faculty motivation in online professional development.

Key words: Teaching Online**,** Online Professional Development, Motivation, and Faculty Intention to Teach Online Courses.

الملخص:

الغرض من هذه الدراسة هو دراسة العوامل التحفيزية في بيئة التطوير المهني الإلكتروني بين أعضاء هيئة التدريس بجامعة الملك خالد في المملكة العربية السعودية. وقد تم إرسال استبيان إلى عينة مستعرضة من أعضاء هيئة التدريس في جامعة الملك خالد لجمع البيانات وبشكل رئيسي البيانات الكمية. وقد تناول سؤال البحث العوامل التحفيزية في دورات التطوير المهني عبر الإنترنت كما تم تقسيم الدافع إلى عوامل الاهتمام والأهمية والثقة والرضا لقياس إلى أي مدى يمكن لهذه العوامل أن تتوقع نية أعضاء هيئة التدريس لتدريس المقررات الإلكترونية في جامعة الملك خالد. العدد الفعلي للمستجيبين للمسح هو 119 مشاركًا، حيث كانوا 57 (47.9٪) من أعضاء هيئة التدريس الذكور و62 (52.1٪) من أعضاء هيئة التدريس الاناث. كما أظهرت النتائج الإجمالية لهذه الدراسة وجود علاقة إيجابية بين عامل الأهمية ونية أعضاء هيئة التدريس لتدريس المقررات الإلكترونية. أما العوامل الثلاثة المتبقية حسب نموذج ARCS و المكونة من الانتباه والثقة والرضا فلم يتم العثور على أنها ذات أهمية في التنبؤ بشكل متفرق لنوايا أعضاء هيئة التدريس. كما أظهرت النتائج أن التحفيز تنبؤ بشكل كبير وإيجابي على نية أعضاء هيئة التدريس. على سبيل الحصر، استخدمت هذه الدراسة عينة متجانسة حيث ينتمي جميع المشاركين إلى نفس الجامعة –جامعة الملك خالد – ومن نفس الدولة، ولذلك يوصى بإجراء مزيد من البحوث لإلقاء المزيد من الأضواء على تحفيز أعضاء هيئة التدريس في التطوير المهني الإلكتروني.

كلمات مفتاحية: التدريس الإلكتروني، التطوير المهني الإلكتروني ، التحفيز، ونية أعضاء هيئة التدريس لتدريس المقررات الإلكترونية.

Background and Definitions:

Online teaching in higher education is an important tool to help transfer and receive knowledge between instructor and learners via an online environment. The development of distance learning in higher education has grown rapidly over the past ten years due to the massive development of technology (Batts, Pagliari, Mallett & McFadden, 2010; McQuggan, 2012). Also, according to the Babson Survey Research Group which traced the progress of distance education in 2002 and 2012, nearly two thirds (69.1%) of the institutions studied viewed online courses as a critical component (Allen & Seaman, 2013). However, according to the literature, one of the main challenges that institutions face is faculty training and development to teach online (Lackey, 2011; McQuiggan, 2007). The implementation of online learning remains filled with challenges that higher education institutions are concerned about and seek to address.

The 1970s saw the emergence of institutional faculty development. Faculty development of this type focused on workshops, reflective teaching, community practice, and mentorship programs. The 1980s was another important era for reform, as colleges around America began to facilitate training programs (Eble & McKeachie, 1985; Toombs, 1983). The goal of these establishments was to improve the quality of education via training sessions that aimed to enhance faculty teaching as well as pedagogical skills.The Internet and email emerged as forms of media expression starting by the mid-1990s, and they are the most common form of distance learning today. These forms have encouraged higher education institutions to transform traditional professional development programs to focus specifically on online based learning (Chen, Chen & Tsai, 2009), which is currently known as Online Professional Development (OPD). Treacy, Kleiman and Peterson (2002) summed up these features in the following points: (1) cost efficiency; (2) flexibility, in that faculty can participate in online professional development at anytime from anywhere; (3) remote interaction with other faculty; (4) engagement in reflective discussion; and (5) exposure to new technologies. Online professional development exists in two common formats: synchronous and asynchronous. Synchronous online professional development occurs in real-time and requires participation from teacher and student (Anderson, 2004; Skylar, 2009). On the other hand, asynchronous occurs in delayed time and does not require interaction at the same time (Johnson & Aragon, 2003; Romiszowski & Mason, 2004; Hrastinski, 2009). The main notion and goal of professional development is to engage the individual with relevant up-to-date skills in his or her area of expertise and promote career development in an ever-changing education technology environment. Professional development is "The development of a person in his or her professional role" (Villegas-Reimers, 2003, p. 11). In addition, Guskey (2002) defined professional development programs as ―systematic efforts to bring about change in the classroom practices of teachers, in their attitudes, and beliefs, and in the learning outcomes of students‖ (p. 38). Lowenthal (2008) defined online professional development as "the training of faculty to use technology in online teaching or to integrate technology into the classroom to improve faculty teaching and student learning, both in the classroom and online" (p. 351).

Motivating the faculty is a key factor that is required to encourage such online development not only in KKU but also in the entire higher education system in SA. There is also a lack of investigation and research despite the pressing need for such research. Therefore, this study examined faculty motivation in online professional development among KKU faculty in Saudi Arabia. Motivation can be defined "As the process of activating, maintaining, and directing behavior toward a particular goal" (Ud Din, Khan, and Murtaza, 2011, p. 501). Specifically, the purpose of the study is to investigate and predict the factors that affect the motivation of KKU faculty to participate in online professional development courses as part of their on-job training experience.

Statement of the Problem

Saudi Arabia currently finds itself in a position where it must take strides in efforts to improve its online professional development system. Alrashidi (2014) stated in his report for the British Journal of Education that, "facing a high percentage of Saudi citizens requiring public education, the S A is faced with capacity issues and the need to improve skills and knowledge throughout the population, the Saudi government recognizes that distance education may be the most expedient solution" (p. 660). Many institutions such as KKU, King Saud University, King Abdul Aziz University, King Faisal University, launched their own deanships of e-learning and distance learning with KKU creating one in 2006 (Al-Asmari & Khan 2014; Aljabre 2012).

One specific institution, KKU, has been a vital part of the larger landscape of implementing and advancing online learning into the higher education system in the Saudi Arabian context (Ali, 2012; Alwalidi & Lefrere, 2010; Alshahrani & Al Shehri, 2012). This implementation has resulted in establishing professional development programs that aim to enhance KKU faculty skills in online teaching specifically. According to E-learning Deanship at KKU, 400 faculty members have attended OPD courses that focus on enhancing faculty skills in online teaching (ELD, 2016). Research studies showed that concepts such as adoption, faculty acceptance, faculty efficacy, and perceptions are the most important issues pertaining to online professional development (Alshehri, 2005; Alenezi, Karim & Veloo, 2010). Faculty in KKU and other similar universities in SAshowed considerable participation levels and considerable amounts of progress (Asiri, bt Mahmud, Bakar & bin Mohd Ayub, 2012; Alshwaier, Youssef & Emam, 2012) owing to their positive attitudes toward professional development in general and online professional development in particular.

Significance of the Study:

This study examined the role of motivation in online professional development among KKU faculty in S A. Although KKU has already begun to implement online faculty development, it could be enhanced further through research since there is a lack of general research regarding faculty motivation in S A. A majority of the literature of online professional development in SAcomes from literature produced by Abdul-Cader and Anthony (2014). This study has indicated a need for greater involvement of the faculty, which is why a quantitative study would be beneficial for producing a database documenting the attitudes and perceptions of faculty that could then be incorporated into the design of a program.

Furthermore, this studiy would help the KKU administration to understand the motivational level of the faculty and respond to the needs that arise. KKU also needs a greater level of participation by faculty in online professional development. This study should also help other universities in SA by serving as a model for analyzing online professional development needs. The secondary benefits are that this researcher has taught at this institution in the past and has experienced some online professional development programs and noticed that some faculty were not motivated or engaged at a satisfactory level. Therefore, this researcher felt that these phenomena should be studied and understood thoroughly.

Research Question:

The following is the question for this study:

Do factors of motivation in online professional development courses (attention, relevance, confidence, and satisfaction) predict faculty intention to teach online courses at KKU?

Theoretical Framework:

This study aimed to investigate how intention to teach online is affected by the role of motivation among KKU faculty in SA using the ARCS model, which is based on expectancy-value theory (Keller, 1987). The ARCS model was chosen for this particular study because it was designed as a problem-solving approach towards the issue of motivation to learn or facilitate (Sanford, 2010). The assumption that online professional development at KKU needs enhancement

and improvement in terms of better motivation levels, makes a problem-solving motivation focused model such as ARCS a step in the right direction. According to Keller (1987), the ARCS model has four core principles: attention, relevance, confidence, and satisfaction. The initials of these four words form the acronym for the ARCS model, as shown in Figure 1.

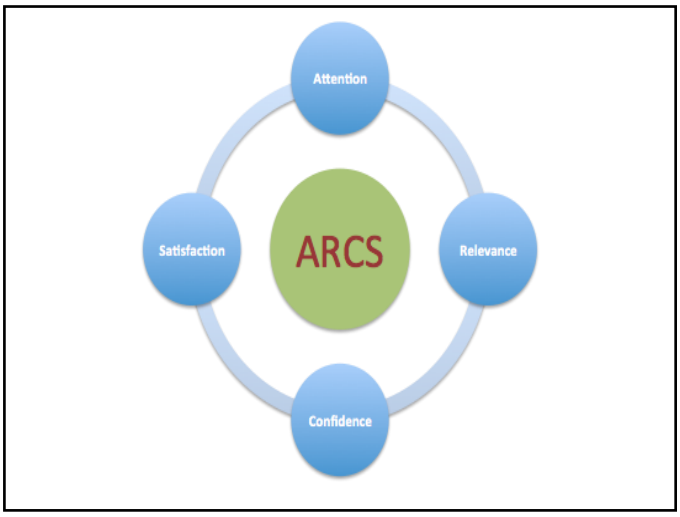


Figure 1. ARCS Model Motivation

According to Keller (1987), Attention "is an element of motivation and its also a prerequisite for learning. The motivation concern is for getting and sustaining Attention." (p. 3). Confidence is the state, which "is accomplished by helping students establish positive expectancies for success" (Keller, 2000, p. 2). According to Azjen (1991), intention is an assessment of an individual's motivation to perform a behavior. Relevance is a motivation requirement that "results from connecting the content of instruction to important goals of the learners, their past interests, and their learning styles" (Keller, 2000, p. 2). Satisfaction "refers to positive feelings about one's accomplishments and learning experiences" (Keller, 1987, p. 5).

Keller also defines satisfaction as a motivation element that: "incorporates research and practice that help make people feel good about their accomplishment." (Keller, 1987, p. 5).

Although all of the four principles are important, Keller places a greater emphasis on Attention and Relevance. In fact, it can be argued that attention and relevance form the backbone of the ARCS model, since confidence and satisfaction depend heavily on attention and relevance.

Assumptions

This study used the following points as assumptions:

- This study assumed that Keller's (1987) ARCS model is reliable in measuring individual's motivation.
- This study assumed that the data is reasonably free from bias since all the participation is voluntary and the participants understand the electronic survey items and provide their response as honestly as possible.
- Using a previously approved survey; i.e. The Instructional Materials Motivation Survey (IMMS) (Keller, 1987), added to both the reliability and validity of the results of this study.
- Collecting the data electronically by means of Northern Illinois University (NIU) Qualtrics link on the participants' emails is beneficial because it saves time and provides convenience to every participant in terms of time and place.

Delimitations and Limitations

As is the case with all studies, this study has its delimitations and limitations:
A delimitation of this study is that the researcher considered using only an electronic survey on the basis that it is easier and timesaving, because it was not possible to consider other aspects. As far as researcher knows, the lack of studies that evaluated using such surveys in SA, aspects of using electronic surveys such as the cultural aspect remain unknown. Another delimitation is that the study did not include all the employees such as administrators and librarians, but it focused only on faculty members, whereas online professional development in KKU covers all the employees in the university. A limitation of this study was the fact that the study restricted itself to one SA university, namely KKU, which makes it limited to one small population of the faculty population in S A. The researcher will recommend future studies to cover the whole Saudi universities faculty members' population.

Historical View of Professional Development

The history of education and professional development differs from one country to an other. Historically, professional development in the USA predates the development of online technology and can be traced to the 1960s. Students themselves took the initiative and began demanding social reforms as well as higher standards for teacher instruction. Student activism forced institutions to reconsider their teaching methods (Toombs, 1983). As time went on, researchers discovered that teaching itself is a learned behavior, meaning that teachers, as well as students, also have to learn. The 1970s saw the emergence of institutional faculty development. Faculty development of this type focused on workshops, reflective teaching, community practice, and mentorship programs. The 1980s were another important era for reform, as colleges around USA began to face training problems (Eble & McKeachie, 1985; Toombs, 1983). The goal of these institutions was to improve the quality of education via training sessions that aimed to enhance faculty's teaching as well as pedagogical skills.
The internet and email, which began to prevail by the mid-90s and is the most common form of distance and e-learning today, encouraged higher education institutions to transform traditional professional development programs to online based, which is currently known as Online Professional Development (OPD). Treacy, Kleiman and Peterson (2002) summed up these features in the following points: (1) cost efficiency; (2) flexibility in that faculty can participate in online professional development at anytime from anywhere; (3) remote interaction with other faculty; (4) engagement in reflective discussion; and (5) exposure to new technologies (Chen, Chen & Tsai, 2009). However, the field of professional development is still evolving and needs to advance further. There is a lack of research evaluating higher education programs (Amundsen &Wilson, 2012; Bakutes, 1998) and what is needed are more longitudinal studies to follow the trajectory of these programs to know the immediate impact of professional development.

In Europe, Rienties, Brouwer, and Lygo-Baker (2013) conducted one of the first studies to examine the impact of online professional development programs on faculty training and development. The researchers of this European study wanted to answer the question: "To what extent did the professional training program lead to a change in Teachers' Beliefs and Intentions (TBI) towards more student-centered learning?"; so they investigated an online training program for university teachers. The study surveyed nine higher education institutions in European countries whose staff and faculty were attending a professional development program, which contained four online modules taken on separate courses. The participants were allowed to work on their own and at their own time and convenience. According to the authors, there was "sufficient autonomy and freedom for teachers to learn and reflect at a time of their convenience" (p. 125). After calculating for the missing values, there were (73) participants left with a response

rate of (90%). The findings of the study showed that using technology in training programs for faculty development would impact their achievements in the courses. Online training makes faculty members more confident and successful in their classes rooms, because it trickles down to their students' ability to learn from the course content.

Research studies, which were conducted in the Middle Eastern region, emphasized the significance of adoption and enhancement of online professional development as a tool for faculty to benefit from the online courses. A Saudi Arabian study (Ali, 2012) was conducted to investigate factors affecting satisfaction toward online learning in a nursing college university (KKU). According to Ali (2012), the impact of technology on education in general has enhanced programs of online training for teachers and students alike to improve both teaching and learning. Rezaei, Mohammadi, Asadi, and Kalantary (2008) investigated the application of online learning in an Iranian university, and Selim (2007) studied the adoption of online professional development and e-learning in the United Arab Emirates. Ali (2012) focused her study on the topic of satisfaction with online learning in a Saudi Arabian higher education context. Therefore, the questionnaire targeted information about factors that might influence learners' satisfaction with online learning. Another Middle Eastern study by Al-Fadhli (2009) examined the factors that influence faculty professional development, especially those that impact faculty acceptance. The study was conducted at Kuwait University in Kuwait City, Kuwait, and was aimed at understanding the impact of online learning has on faculty acceptance of online professional development. It identified challenges that might affect faculty professional development as well as minuses and pluses of online learning in the Arab countries' higher education environment (Al-Fadhli, 2009). More Saudi Arabia research studies (e. g., Abdul-Cader & Anthony, 2014; Aldahmash, Alshamrani, Alqudah, & Mansour; 2013) were published stating that factors affecting faculty decisions included motivational factors. In general the Middle Eastern studies were concerned with data that can measure the levels of learners participation in online professional development courses.

Faculty Motivation in Online Professional Development

Online and distance learning can be obstructed by factors that increase technology anxiety of the students and their teachers. Such factors include "learners' attitude toward computers, learners' computer anxiety, e-learning course flexibility, e-learning course quality, technology quality, perceived usefulness, perceived ease of use, diversity in assessment, and learner perceived interaction with others" (Ali, 2012, p. 211). Yet, faculty motivation in OPD remains undiscovered. Prior research (e. g., Ali, 2012) examined online learner satisfaction related to online development in higher education in the south of . All the participants attended one or more online courses, which were provided online by faculty as requirements of completion of their college study. The author concluded her study indicating that universities need to create motivating procedures for improving learners' satisfaction and for enhancing online courses of professional development programs.

Faculty and teachers play the role of a middleman between the student body and the institution of the school. The pupils' experience is a product of the ability of faculty to facilitate knowledge, which creates a symbiotic relationship between students and staff. Artino (2008) focused more on the educational experience of the pupils. Artino (2008) asserted that students in online courses have added responsibility well beyond the level of the responsibility found in the physical classroom. However, instructional quality also played a role in educational outcomes alongside of self-efficacy. Therefore, when students struggle in online courses, faculty have to evaluate where they have fallen short instead of shifting all of the blame on the students. Some research studies (e. g., Cao, Cepero, Vu, & Vu (2014) examined self-motivation, self-regulation, and self-directed learning as the key components to enjoying success in an online program. Cao et al. (2014) found that some developers strategically try to design their online professional development programs to be as close as possible to the physical classroom experience. Bolinger and

Wasilik (2009) stated that institutions should investigate the attitudes of both faculty and students when assessing the success of their online educational programs. The output of the students can affect the performance and funding of the institution itself, which is how online professional development is related to the importance of providing the best education to the students themselves.

Using technology in training programs for teachers and faculty has its evident impact on developing the trainees' knowledge during such programs. Research findings (Rienties, Brouwer, & Lygo-Baker, 2013) indicated that online training makes faculty members more confident in their ability to teach with technology in their classes. The authors emphasized the confidence of the online training program participants. The delivery design of the training program could be a replicate of the real class work of each faculty member or a group of members sharing the same discipline (Rienties et al., 2013). Thus, the integration of technology into the different classrooms contents of higher education disciplines can be achieved through professional development programs. According to Rienties, Brouwer, & Lygo-Baker (2013), "In particular, it is important that professional development is embedded into the academics' daily practice and not just concentrated upon in one particular context" (p. 122-123). Universities that need to develop their faculty members are recommended to design practical training courses and modules similar to the context in which their faculty are already working.

Faculty Online Professional Development in Saudi Arabia

One problem that SAfaces is cultivating the motivation of the faculty. According to Abdul-Cader and Anthony (2014), this motivation seems to exist in the traditional classroom, but is lacking in the online environment. This is because faculty feel that they have less control in the online classes, which is why Abdul-Cader and Anthony stressed the importance of having the faculty present when determining the design of programs through professional development. Abdul-Cader and Anthony (2014) used two surveys and a query to analyze the qualitative attitudes of instructors to reach the conclusion that decision-making, or lack-thereof, and control affected the experience of faculty. Aldahmash, Alshamrani, Alqudah, and Mansour (2013) also noticed a similar factor. They discovered that the issue of decision-making and control had the ability to motivate or demotivate faculty. Pressure from institutions has a negative effect on online faculty professional development in SAwhen that pressure is not supplemented with proper support. Aldahmash, et al. (2013) also emphasized the importance of continuing professional development because certain subjects in school obviously require qualified instructors. This is similar to Abdul-Cader and Anthony's (2014) assertion that motivated and trained staff will enhance the reputation of the institution and provide greater avenues for investment in a country like SAwhere education investment is high.

Technological literacy, online education study skills, and study time management are very essential. Training the staff and faculty in techniques of instructional design and providing technical support units are of vital importance. Enhancing faculty to be committed to online education by increasing their confidence and enthusiasm toward using technology is necessary for helping students to learn to use technological content of the online course (Ali, 2012). Due to its flexibility, online education is attractive, and learners can choose from many forms of learning that is suitable for their study needs. Al-Fadhli (2009) used an existing survey based on Roger's theoretical framework of constructs (voluntariness, relative advantage, compatibility, image, ease of use, trialability, result demonstrability and visibility) to study the role of perception in terms of innovative success. Al-Fadhli's (2009) study investigate the factors that influence faculty professional development in general and their acceptance of e-learning and online training in particular. Online professional development continues to become popular across the world, beyond the borders of S A. What needs to be remembered is that when faculty engages in such

development, they essentially perform the role of a pseudo-student, which means that they face motivational problems similar to students.

Faculty Intention to Teach Online

Literature related to online professional development includes a plethora of research studies that have investigated both students' and faculty acceptance and intention to teach online courses (Alanazi, Niileksela, Lee, Frey, & Nong, 2017; Baturay, Gökçearslan, & Ke, 2017; Beach & Willows, 2017; Bolliger & Wasilik, 2009; Esteve Del Valle, Gruzd, Haythornthwaite, Paulin, & Gilbert, 2017; Ifinedo, 2017; Nikou, S. A., & Economides, A.) A. (2017; Revythi & Tselios, 2017). Such related studies examined and identified potential factors that affect faculty intention to teach online courses and for professional development purposes. According to Beach and Willows (2017), understanding factors that control faculty cognitive processes during online development sessions can help their institutions with designing of online programs related to their intentions and acceptance levels. Revythi and Tselios (2017) conducted a study to examine students' acceptance of technology and behavioral intention to use Learning Management Systems (LMS). The results revealed that factors of social norm, accessibility and self-efficacy affected students' intention to use online educational environments. Similarly, Ifinedo (2017) investigated factors influencing higher education students' continued intention to use blogs for learning in a Management Information Systems course (MES). The findings indicated that factors that might affect students' intention include perceived self-efficacy, achievement expectations, and social ties. According to Ghalandari (2012), "effort expectancy is the extent of convenience perceived for using system. Similar constructs in other models and theories from semantic viewpoints are: perceived ease of use (technology acceptance model), complexity (PC utilization model and innovation diffusion theory)" (p. 802). When applied to online teaching specifically, effort expectancy seems to be a stronger predictor than cultural influence, performance expectancy, or facilitation setting, according to Mtebe and Raisamo (2014). Therefore, previous studies stressed that online learning developers, higher education institutions, and decision makers should focus on intention-related factors to enable an online development program to use educational technology that is effective for educational processes.

In other research attempts, some research studies indicated that intention cannot be predicted by measuring factors related to satisfaction and acceptance. For example, "To what extent did the professional training program lead to a change in teachers' beliefs and intentions towards more student-centered-learning?" was a research question which Rienties, Brouwer, and Lygo-Baker (2013) wanted to answer. They surveyed (73) participants from nine higher educational institutions. Their findings showed that faculty beliefs and intentions towards their students' online learning were not impacted from their online professional development program. The researchers found significant differences regarding the participants' intentions toward the appropriateness of teacher-centered styles of class delivery compared to the personal preference of online designs. Their results indicated that the participants' intentions about the styles that they were supposed to learn in their online program differed depending on individual differences. Furthermore, Wingo, Ivankova, and Moss (2017) published a study in which they synthesized (67) empirical studies about faculty teaching online published between 1995 and 2015, using TAM2 constructs as a conceptual framework. The authors concluded that their synthesis revealed issues including academic achievement in online classes, uncertainty regarding faculty image as online instructors, technical support issues, and workload concerns. Because of the impact it has, online professional development has been the focus of research studies in many countries (Aldahmash, et al., 2013; Al-Fadhli, 2009; Ali, 2012; Rienties, Brouwer, & Lygo-Baker, 2013). It has always been recommended that higher education institutions should provide adequate online professional development, training platforms, and technical staff support for faculty members.

In conclusion, the continuous flow of technological advancement affected the choices of many universities in and around S A. For example, in KKU, faculty need to develop their abilities through online development as many departments of this university now provide online courses and consider them an essential part of faculty training. However, issues such as motivation and satisfaction need to be determined whether the trainees will effectively use the online materials, especially after the training course. Therefore, this study will explore motivational factors of faculty online experiences. Much of the work in the area of faculty motivation suggests that quantitative procedures may be the most appropriate method for exploring motivational factors as they allow statistical analyses.

Methodology

This case study employed survey method to study relationships between motivation and intention in online professional development among KKU faculty in S A. As a framework, the study used the ARCS model, which is based on expectancy-value theory (Keller, 1987). Quantitative methods and procedures that were utilized for this study to answer the following question:

* Does motivation in online professional development courses (Attention, Relevance, Confidence, and Satisfaction) predict intention to teach online courses at KKU?

Research Design of the Study

The study employed a survey research method to examine the faculty motivation in online professional development among KKU faculty in S A. Survey research is an appropriate design for addressing the proposed question, because of this, researcher wanted a high level of feedback. According to Cesswell (2012), a survey research design is used in quantitative studies to "identify trends in attitudes, opinions, behaviors, or characteristics of a large group of people (called the population)" (p. 21) The survey was sent out using an anonymous web link, which helped to increase the likelihood of candid responses. Anonymous surveys allowed respondents to enter a certain comfort zone that may be missing in other forms of research.

Study Context

KKU is a state university located in the southern part of the Saudi Arabian Kingdom, and is one of the largest universities in the Kingdom. It provides higher educational services to a student population of about (60) thousands of students. The university consists of (29) colleges for different academic majors such as science, math, languages, medicine, and social sciences. The researcher has taught in the college of educational department at KKU, and has firsthand experience dealing with its staff. KKU was also selected for this study, because it has already begun applying programs geared towards enhancing its online professional development (Ali, 2012; Alwalidi & Lefrere, 2010; Alshahrani & Al Shehri, 2012). The university started to embrace the importance of such programs for the development and training of staff and employee members (for example, Quality Matters programs), and there are attempts that were currently being made to attract the university employees' attention toward the benefits of these programs. As mentioned earlier, KKU has developed its own dean of e-learning platforms and distance learning programs (Al-Asmari & Khan 2014).

Participants and Sampling

The accessible population of this study included faculty who had attended online professional development courses offered by KKU in Abha, S A, (N = 400). The researcher applied a convenience sampling approach to collect data. The survey was electronically sent to all individuals identified as faculty working in the colleges and schools of KKU. Out of 400 faculty members, 184 participated in the online survey with a 46% response rate. The total usable number participated in this study was 119 with no missing values.

tool of the Study

The tool adopted was based on the original work of Keller (1987). The researcher obtained permission from the author to use the survey instrument in this study (See Appendix A). Keller (1987) developed an instrument called Instructional Materials Motivation Survey (IMMS). The IMMS aimed to measure individuals' motivation based on four variables factors. These variables are Attention, Relevance, Confidence and Satisfaction. The IMMS has a 5-point symmetrical Likert-type scale (1 = *Not true*, 2 = *Slightly true*, 3 = *Moderately true*, 4 = *Mostly true*, and 5 = *Very true*). The four subscales are Attention (12 items), Relevance (9 items), Confidence (9 items), and Satisfaction (6 items). There was a total of (36) items on the tool.

The survey tool of this study consisted of three sections. The first section asked participants about their demographic information including gender, age, years of experience, professional role, and number of online professional development courses taken. The second section measured participants' motivation based on Keller's (1987) four factors (36 items) (Attention, Relevance, Confidence, and Satisfaction). In addition, participants were asked about their intention to teach online courses (5 items). In the third section, there were two open-ended questions were asked. The total items in the survey instrument were (48) items (See appendix D, C, & E).

Tool Reliability

Regarding extant reliability evidence, Keller (1987) conducted a pilot study to assess reliability and found that the observed value of Cronbach's Alpha was (0.96). The subscale had values of Alpha ranging between (0.81) and (0.92). In this study, Reliability evidence was collected using (30) faculty members who participated in the survey pilot. The researcher computed Cronbach's Alpha to check item reliability of the translated instrument. The overall Cronbach's Alpha was (0.92). As shown in Table (1), the five constructs had Alpha values ranging from (0.70) to (0.94).

Table (1)

Cronbach's Alpha Coefficient of IMMS Instrument Translated Version

#	Variable	Corresponding Items	Cronbach's Alpha
1.	Attention	1-12	0.70
2.	Relevance	13-21	0.81
3.	Confidence	22-30	0.77
4.	Satisfaction	31-36	0.90
5.	Intention	37-39	0.94
6.	Total Scale	1-39	0.92

Research Procedure:

The researcher conducted this study in an ethical, moral, and responsible manner in accordance with the requirements of the Institutional Review Board (IRB). According to Creswell (2012), the participants have the right to decide when, and to what extent their participation is continued as well as to whom their information and attitudes would be shared or revealed. So the researcher made sure that the participants knew their rights and a research IRB permission was

administered before conducting the study. The research distributed the survey among participants using a web link. The online survey was sent to participants' emails. The department of faculty development at KKU sent the survey to participants who had attended online professional development courses offered by the faculty development department at KKU. The survey was available from April 10, 2017 to October 10, 2017. During that time, the department of faculty development at KKU sent two reminders to participants to participate in the survey.

To ensure privacy and security during data collection, the survey was administered anonymously to the target population. Moreover, the data were stored on a password-protected hard drive that no one other than the researcher could access. The consent form included an explanation of the research purpose and that participation is voluntary. The consent form was in an electronic format, which was based on an "Agree" button to grant consent. (See Appendix B and C). The modified tool was used with permission from the original authors. (See Appendix D). For data collection procedure and timeline.

In conclusion, this study examined faculty motivation toward online professional development. The theoretical framework that guided this study is the ARCS model (Keller, 1987). The IMMS instrument was used to measure faculty motivation at KKU and was based on ARCS' four core principles. Descriptive and inferential quantitative methodology was used to achieve the goal of this study. The researcher believed that the findings of this study will help KKU improve its online professional development programs as well as improve its institutional and educational outcomes.

Data Analysis

In order to answer the research question of this study, the researcher computed descriptive statistics and carried out inferential tests. For descriptive statistics, researchers describe the sample characteristics such as sample size, age, gender, mean, median, mode, skewness, and standard deviation. Inferential statistics focused on using the appropriate inferential method known as Multiple Linear Regressions.

Findings

The results were obtained through statistical analyses, as the following research question was answered:

- Does motivation in online professional development courses (Attention, Relevance, Confidence and Satisfaction) predict intention to teach online courses at KKU?

Data Screening

Out of (400) faculty members, (184) participated in the online survey, constituting a (46%) response rate. The online survey results were screened first for missing values from the initial data, (65) cases were eliminated because of failure to complete the survey (i.e. a high number of items with missing data). Missing values for the remaining (119) cases, which constituted (10%) of the data, were determined to be missing completely random (MCAR) using Little's (1988). The results from the test (X^2 (479) = 523.03, p = 0.08) provided no evidence against the assumption of MCAR. Consequently, these (10 %) missing values were imputed using Hot-deck imputation technique.

Demographics

The demographic information includes age, gender, years of experience, professional role, and number of OPD courses attended. A descriptive statistics approach was applied to analyze the demographic information of the participants and the findings showed that (119) participants who responded to the survey, 57 -(47.9 %) were male and 62 -(52.1%) were female faculty. As for the age groups of the participants, (30.3%) were in the age group of (25-34) years, (42.9%) were between (35-44) years of age, and 21.8% were between 45-54 years, whereas 5.0% were above (55) years. Among the studied faculty population, 42.9% were lecturers and 1.7% assistant teachers.

Years of experience ranged from 4.2% less than one year of experience, (20.2%) between (1-3) years of experience, 26.1% had (4-6) years of experience to 16.8 % had more than 10 years with the highest percentage 32.8% of the participants between (7 – 10) years of experience.

As for the number of online professional development courses taken, almost half the participants (49.6%) responded that they had more than 4 courses, which reflects the availability of such courses. The percentages of (18.5%), (15.1%), and (10.9%) respectively correspond to participants who had taken one, two, and three courses.

Quantitative Variables:

Statistical descriptive analysis of frequencies, percentages, mean, standard deviation, and percentages were conducted to assess the four ARCS constructs, namely attention, relevance, confidence, and satisfaction. Twelve items on the survey corresponded to attention (A), nine items corresponded to relevance (R), confidence (C) had nine items, and six items corresponded to satisfaction (S). Intention, which was the result of modification of the survey that the researcher conducted to suit the purpose of this study, had five items.

The overall motivation score of the participants was computed by averaging across the (36) items of all the four ARCS constructs (Attention, Relevance, Confidence, and Satisfaction; Keller, 2009). The overall mean was M = 3.99 and the standard deviation was *SD* = 0.61. The overall motivation scores show slight negative kurtosis and a slight negative skewness.

The histograms for the ARCS model Attention, Relevance, And Confidence were close to normal. However, the histogram for satisfaction shows strong negative skewness. The mean score for intention was *M* = 4.25, and the standard deviation was *SD* = 0.70. There were no extreme values, and the histogram shows strong negative skewness for this construct.

Linear Regression #1

The results for the regression of intention to teach online courses on overall motivation, Included gender, age, experience, professional role, and number of OPD courses. Results from this regression indicated that the complete set of predictors significantly predict intention [$F(6, 112) = 10.70$, $p < .001$], with (32%) of the variation in intention explained by the set of predictors ($R^2 = .32$, $R^2_{adj} = .29$). Figure (2) provides a scatterplot of total intention score on predicted values.

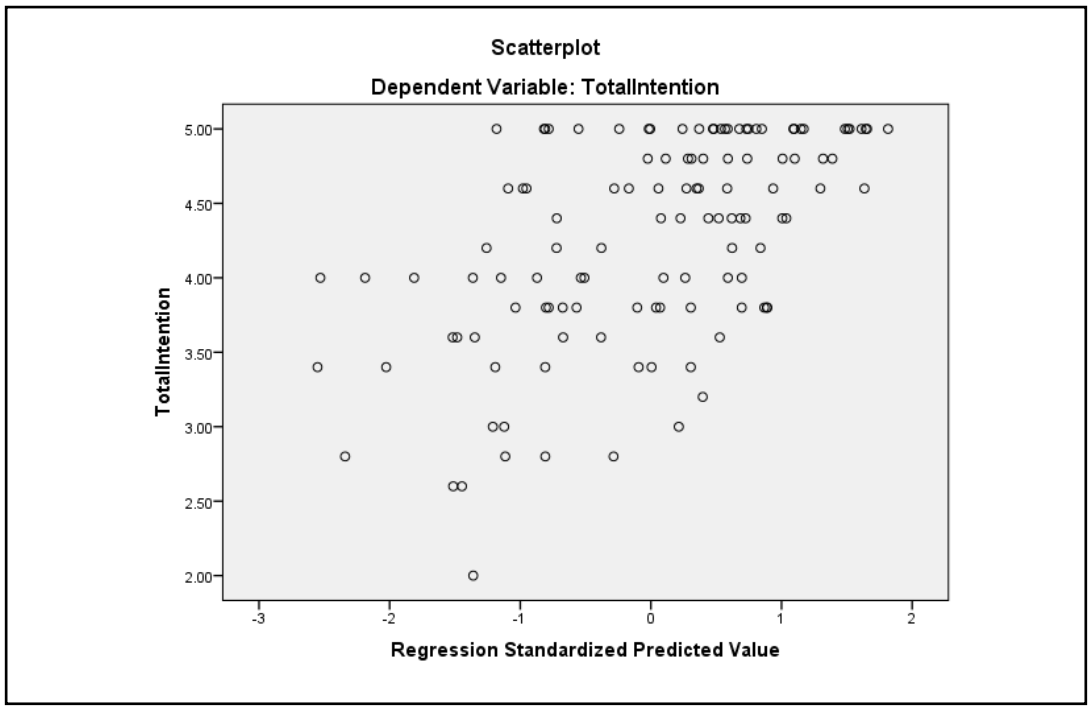


Figure 2: Scatterplot of Total Intention Score On Predicted Values.

Examination of the individual predictors overall motivation, gender, age, experience, professional role, and number of OPD courses Table (2) showed that, when controlling for other predictors in the model, overall motivation (β = .52, p <.001) significantly and positively predicted intention to teach online.

Table (2)
ANOVA for Regression Model Predicting Intention from Gender, Age, Years of Experience, Professional Role, Number of OPD Courses (N =119)

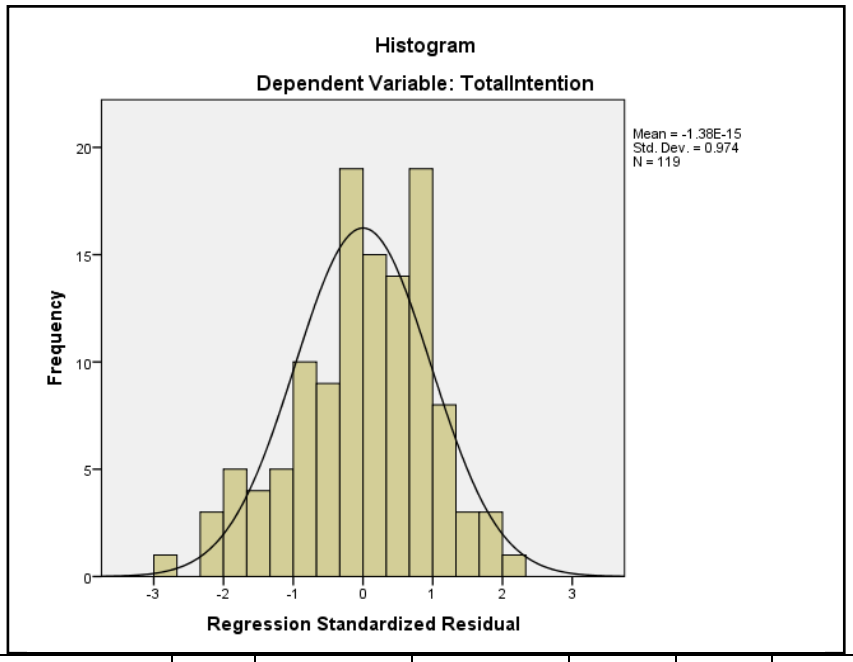
#	Source	Sum of Squares	*df*	Mean Square	*F*	*p*
1.	Regression	18.84	6	3.14	8.92	<.001
2.	Residual	39.43	112	0.35		
3.	Total	58.28	118			

The histogram in Figure (3) shows the distribution of residual values for the intention to teach online total score. The distribution appears close to normal. In addition, a scatter plot of the residuals on the predicted values was generated, and it indicated that the residuals were homoscedastic. In addition, for all the predictors, lack of multicollinearity was evident, with Variance Inflation Factor Values (VIF) for each of the four predictors relatively close to (1.0.) There were no standardized residuals more extreme than (+/- 3.00).

Table (3)
Summary of Regression Coefficients for the Effects of Gender, Age, Years of Experience, Professional Role, Number of OPD Courses, and Overall Motivation on Intention to Teach Online Courses

Estimate	Unstandardized Coefficients	Standardized Coefficients				Collinearity Statistics

		B	*SE*	*β*	*t*	*p*		VIF
	(Constant)	1.78	0.53		3.37	<.001		
	Gender	-0.05	0.13	-.03	-0.36	.72		1.32
	Age	-0.05	0.08	-.06	-0.60	.55		1.47
	Years of Experience	0.11	0.06	.17	1.86	.07		1.35
	Professional role	0.09	0.11	.06	0.76	.45		1.17



	Number of OPD courses	-0.00	0.04	-.01	-0.08	.94		1.28
	Overall Motivation	0.60	0.10	.52	6.26	<.001		1.13

Figure (3): Histogram of The Residual Values for The Intention To Teach Online Total Score.

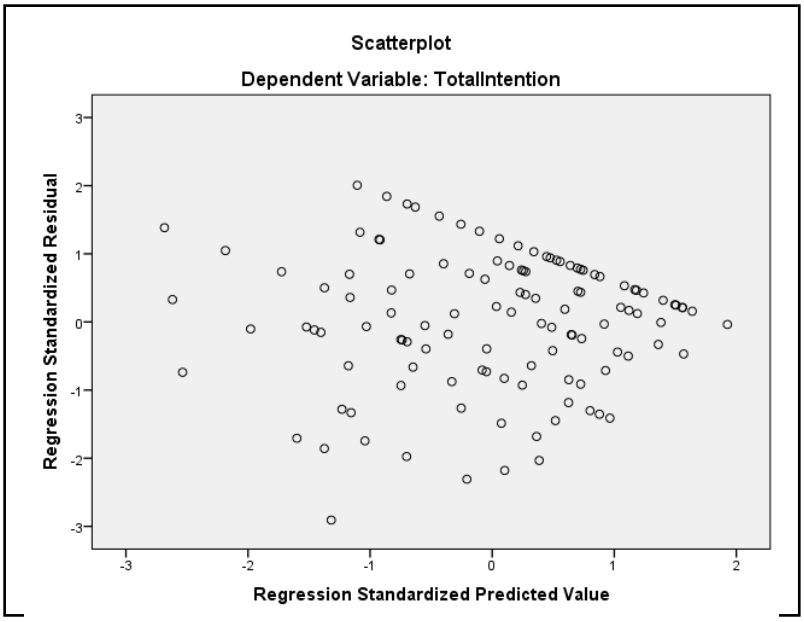


Figure (4): Scatter Plot of the Residual Values for The Regression Standardized Residual.

Linear Regression #2

Applying Linear Regression #2 analysis, showed how each component of (ARCS) of motivation is related to intention to teach online courses.

Block #1: Table (4) and (5) provide the results for the regression of intention to teach online courses on gender, age, experience, professional role, and number of OPD courses. Results from this regression indicated that this set of predictors did not significantly predict intention [F(5, 113) = 2.15, p =.06], with (9%) of the variation in intention explained by the set of predictors (R^2 = .09, R^2_{adj}= .05).

Block #2: Table (3) and (4) provide the results for the regression of intention to teach online courses on gender, age, experience, professional role, and number of OPD courses, attention, relevance, confidence, and satisfaction. Results from this regression indicated that the complete set of predictors significantly predicted intention [F(9, 109) = 6.17, p <.001], with (34%) of the variation in intention explained by the complete set of predictors (R^2 = .34, R^2_{adj}= .28). When the effects of the ARCS constructs were considered, these constructs together accounted for 34% of the variation in intention, which was statistically significant (p <.001). Figure (5) provides a scatterplot of total intention score on predicted values, which shows the regression relationship to teach online courses.

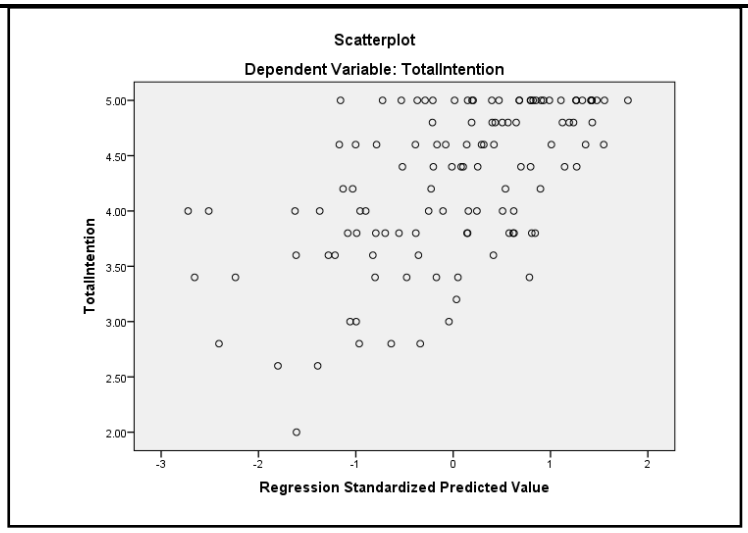


Figure (5): Scatterplot of Total Intention Score On Predicted Values.

Examination of the individual ARCS predictors, however, indicated that only relevance (β = .33, p = .02) significantly and positively predicted intention.

Table (4)
ANOVA for Regression Model Predicting Intention from Gender, Age, Years of Experience, Professional Role, Number of OPD Courses, and ARCS Constructs (N =119)

#	Model / Effect	Sum of Squares	*df*	Mean Square	*F*	*p*
1.	Regression	5.06	5	1.01	2.15	0.06
	Residual	53.22	113	0.47		
	Total	58.28	118			
2.	Regression	19.66	9	2.19	6.17	0.00
	Residual	38.62	109	0.35		
	Total	58.28	118			

Examination of the histogram of model residuals showed a close-to-normal distribution. In addition, a scatterplot of the residuals on the predicted values was generated, and it indicated that the residuals were homoscedastic. In addition, lack of multicollinearity was evident for all the predictors, with Variance Inflation Factor values (VIF) for each of the four predictors relatively close to (1.0.) Among the standardized residuals, there was no standardized residuals more extreme than (+/- 3.00.)

Table (5)

Summary of Regression Coefficients for The Regression of Gender, Age, Years of Experience, Professional Role, Number of OPD Courses on Intention to Teach Online Courses.

Model / Source		Unstandardized Coefficients		Standardized Coefficients				Collinearity Statistics
		B	*SE*	*β*	*t*	*p*		VIF
1	(Constant)	3.59	0.51		7.04	<.001		
	Gender	0.80	0.14	0.06	0.56	0.58		1.29
	Age	-0.01	0.09	--0.02	-0.16	0.87		1.46
	Years of Experience	0.15	0.07	0.24	2.32	0.02		1.33
	Professional role	0.22	0.13	0.16	2.06	0.11		1.13
	Number of OPD courses	0.02	0.06	0.04	0.43	0.67		1.27
2	(Constant)	1.71	0.54		3.16	<.001		
	Gender	0.00	0.13	.000	-.00	0.10		1.43
	Age	-0.03	0.08	-0.03	-0.37	0.71		1.52
	Years of Experience	0.10	0.06	0.15	1.66	0.10		1.40
	Professional role	0.10	0.12	0.07	0.80	0.34		1.19
	Number of OPD courses	-0.00	0.05	-.00	-0.05	0.96		1.29
	Attention	-0.00	0.15	-0.03	-0.02	0.99		3.24
	Relevance	0.35	0.15	0.32	2.33	0.02		3.19
	Confidence	0.10	0.14	0.09	0.72	0.48		2.72
	Satisfaction	0.014	0.12	0.16	1.21	0.23		3.00

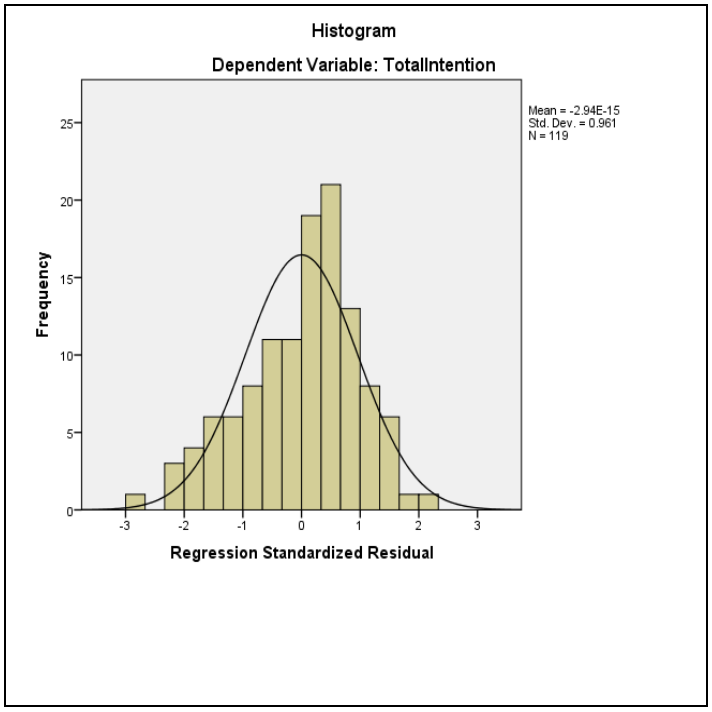


Figure (5): Histogram of the Residual Values for the Intention Total Score.

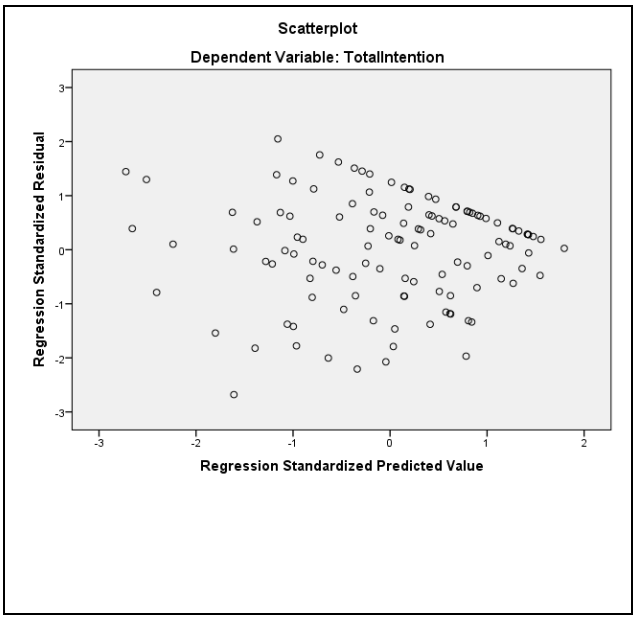


Figure (6): Scatterplot of the Residual Values on the Predicted Values.

DISCUSSION:

The overall findings of this study showed that there was a positive relationship between Relevance and faculty intention to teach courses online. The remaining three factors of ARCS model consisting of Attention, Confidence, and Satisfaction; were not found to be individually significant predictors of faculty intention. Findings also showed that motivation significantly and positively predicted faculty intention. However, none of the moderator variables (overall motivation gender, overall motivation age, overall motivation and professional role, overall motivation years of experience, and motivation number of OPD courses) reliably predicted intention. Results also showed that, although the complete set of predictors significantly predicted overall motivation, none of the individual variables significantly predicted overall motivation. The findings demonstrated that Attention was positively predicted by years of experience predictor, Confidence was positively predicted by female gender, and satisfaction was positively predicted by years of experience. None of the predictors significantly predicted relevance.

Faculty Intention to Teach Online

The research question was to assess if faculty intention to teach courses online at KKU can be predicted by the ARCS model. This question was answered by conducting multiple linear regressions. The findings showed that, when motivation was considered as a unitary construct, it was a statistically significant predictor of faculty intention to teach online courses. When predictors were individually analyzed, however, only one component of the ARCS model was statistically significant in predicting faculty's intention to teach online, which was relevance. The remaining predictors of ARCS model showed no significance in predicting faculty's intention to teach online courses. These findings were contradicted with study conducted by Rienties, Brouwer, & Lygo-Baker (2013), which examined the impact of online professional development programs on faculty training and development. The study showed that online professional development makes faculty members more confident and successful in their classes. However, in this study, Relevance was the only significant predictor of faculty intention to teach online.

This inconsistency with the study by Rienties, Brouwer, and Lygo-Baker (2013) might be the result of the distinct research design, participants, and context of the current study. The current

study utilized a survey design focused on KKU faculty members' intention to teach courses online, based on ARCS model, while the study conducted by Rienties, Brouwer, and Lygo-Baker (2013) utilized pre- and posttest survey design to investigate attitudes and intention about online professional development based on the theory TPACK. Research design and the use of theory could be the two factors causing inconsistent results between both studies.

Moreover, the findings of the current study differ from studies conducted by Abdul-Cader and Anthony (2014 and Aldahmash et al. (2013) who reported that faculty's intention to engage in professional development is affected by their motivational factors such as Attention, Relevance, Confidence, and Satisfaction.

Faculty Motivation in Online Professional Development

The open-ended items from the survey collected during this study showed that participants' attention toward the availability of professional development reflected they were motivated. For example, one of the responses was: "Yes, it is important because nowadays computer is available to all students and in the era of computer or networks, it's necessary to use new technology and take benefit." This open-ended response showed the importance of utilizing technology in education. The results of this study were different because Abdul-Cader and Anthony (2014) and Aldahmash et al. (2013) studies have different research methods and participants. Abdul-Cader and Anthony (2014) used mixed methods to examine the motivational issues of faculty members in S A. The inconsistency in results between this study and Abdul-Cader and Anthony (2014) might be due to differences in the research designs. Because results pertaining to research question one were in disagreement with previous research studies, further investigation about ARCS model and faculty intention to teach online is needed. Due to the significance of overall motivation factors in predicting faculty intention to teach courses online, universities in S A should create motivating procedures such as including faculty opinions in the designing stages. This could improve faculty ARCS and enhance online teaching, as an option for both student learning and professional development programs (Abdul-Cader & Anthony, 2014).

Implications for Faculty Online Professional Development in S A

The results indicated that the overall motivation of faculty as well as their intention to utilized online professional development is predictable, and this information might be utilized to achieve success of online professional development courses in higher education in the Kingdom of S A. Specifically, the contributions of this study are related to faculty intentions to teach online courses and the four components of motivation: Attention, Relevance, Confidence, and Satisfaction. Firstly, while the study revealed that Attention was predicted using demographic characteristics, this finding cannot be checked against prior research because the literature review did not detect any studies that might have included attention as a component of motivation in the field of online professional development. Thus, this study is a unique contribution to existing literature on the subject. Secondly, while relevance is difficult to predict using faculty characteristics, this study will be an indication that more research is needed regarding the assessment of relevance as a motivational. Thirdly, while previous research studies (Ali, 2012; Al-Azawei and Lundqvist, 2015) addressed faculty satisfaction, the contribution of this study remains significant as it reveals that satisfaction as a component of motivation can be predicted by demographic factors of gender, years of experience, and number of OPD courses taken.

Moreover, the study contributed to the context of online professional development by pointing out the most predictable factors of faculty motivation and intention to teach courses online in higher education teaching as indicated in prior studies (Abdul-Cader & Anthony, 2014; Aldahmash, et al., 2013). Some previous studies (Rienties, Brouwer, & Lygo-Baker, 2013) utilize

quantitative methods to analyze the implications of faculty motivation on online learning and professional development and how it influenced the institution's academic performance. However, to investigate the effectiveness of online professional and faculty participation, it is essential that online courses are designed according to the faculty demographic factors such as gender and years of experience. The findings of this study have indicated that it is necessary for higher education institutions to provide online professional development programs according to faculty preferences because faculty can easily benefit from different learning potentials that meet their intention and motivation. Furthermore, the demographic factor of gender in countries like S A is influenced by several cultural and environmental variables (Al-Azawei & Lundqvist, 2015). Therefore, this study recommends further investigation to reveal the impact of gender on S An higher education programs of online professional development. Perhaps using mixed methods in future studies could reveal more data and identify gender-related factors for understanding this issue. Finally, the psychological factor of intention is directly linked with motivation in learning and training environments, but its influence also depends on other variables such as gender, age, years of experience, professional role, and number of OPD courses.

Limitations

This study faced some limitations. First, the study utilized a homogeneous sample (Creswell, 2012) as all the participants belonged to the same university, KKU, and the same country, and so they might have used stereotypes of opinions such as traditional view of the superiority of in person classroom, especially regarding program relevance and online courses.

Conclusion

The study investigated faculty motivation and intention to utilize online professional development offered by S An higher education institutions for their faculty and staff, which would benefit higher education in the country. This study used the constructs of Keller's ARCS model to achieve the goal. The findings showed that overall motivation can predict faculty intention to teach online courses.

Although motivational components have been used by many studies, this is the first time they have been used to predict faculty intention to teach online professional development. The literature related to online professional development showed that research studies have investigated both student and faculty acceptance and intention to teach online courses using factors of task value, technology satisfaction, and Task Technology Fit (TTF) model factors (Alanazi, Niileksela, Lee, Frey, & Nong, 2017); computer competence, attitude towards computer-assisted education, and intention of technology acceptance (Baturay, Gökçearslan, & Ke, 2017), (Beach & Willows, 2017), and (Bolliger & Wasilik, 2009); Unified Theory of Acceptance and Use of Technology (UTAUT2) model (Esteve Del Valle, Gruzd, Haythornthwaite, Paulin, & Gilbert, 2017); factors of technology acceptance, motivational, and social-cognitive (Ifinedo, 2017); the Mobile-Based Assessment Acceptance Model (MBAAM) based on the TAM (Nikou & Economides, 2017); and technology acceptance and behavioral intention (Revythi & Tselios, 2017). However, the literature review of this study did not identify any studies related to online professional development that exploited Keller's ARCS of motivation to measure intention.

Therefore, the researcher's recommendation is to conduct studies that investigate larger and heterogeneous samples to provide more reliable findings that can be generalized to the target population. Because of the participant demographics, the researcher recommends that the findings of this study should be interpreted carefully. Another limitation to this research is that the data was collected by a self-reporting instrument, which could allow for biased responses to certain items within the survey due to personal preferences or social and professional backgrounds. Another limitation is that the data for this study was collected by means of an electronic survey, which was

translated from English to Arabic, the participants' native language, and then the responses were translated back into English. This might have affected the responses of the participants and the understanding of the translated questionnaire items, and the translations might have caused the responses to lose the essence of self-reported data. Collecting data by use of qualitative research design would allow for more accurate interpretations. For example, the item number 2 under the construct 'confidence' (This material was more difficult to understand than I would like for it to be. (فهم محتوى البرنامج التدريبي كان أكثر صعوبة مما كنت أتوقع included verb to be which is translated to Arabic by using different equivalents because it does not exist in Arabic.

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