Full Length Research Paper

Creating change in the use of information and communications technology by female Islamic studies teachers in Saudi Arabia

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The range of research undertaken in the area of the use of information and communications technology (ICT) in the teaching-learning process indicates the importance of the need for such a tool. Paradoxically, there is lack of emphasis on Islamic teachers and specifically female Islamic teachers. This study was conducted in 2017 using a range of quantitative methods and analysis involved 87 female participants who expressed their willingness to effectively use ICT in the teaching-learning process. This study which used the survey research design found that the female Islamic studies teachers had a positive attitude towards using technology in the class as well as their needs to implement such a practice. The study is significant for administrators in a segregated society like Saudi Arabia because it helps them to plug in the loopholes in the system.

Key words: Information and communications technology (ICT), teachers' attitude, teachers' needs.

INTRODUCTION

There is little doubt that technology has become one of the most essential components to surviving in the modern world and continues to affect almost every facet of our life (Bakeri Abu Bakar and Saleh, 2010). The field of education is particularly dependent on new and evolving forms of technology, and correspondingly, the adoption and adaption of such new tools also merit the attention. Over the past few decades, this area has continued to expand with many researchers exploring the various opportunities to maximise its efficient use (Almekhlafi and Almeqdadi, 2010).

The context in Saudi Arabia is unique, both for its historical influences and emphasis on education, the influence of the monarchy as well as various other religious and cultural distinctions. 'Islamic education has, since the inception of Islam, been interested in developing the human intellect and nurturing scientific reasoning, being the key to the development of human communities" (Ashraf, 2013). Studies in Islamic education have established that teaching good behaviour is an important component which enhances the development of individual potential in a holistic, balanced and integrated manner, encompassing the intellectual, spiritual, and physical aspects (Halim, 2007). Islamic culture and most other cultures' education are considered vital. Education brings enlightenment and this is all the more so for an authentic practicing Muslim. The onus of bringing this enlightenment lies on the shoulders of

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teachers of Islamic studies (Anzar, 2003). Islamic studies include Qur'anic Interpretation (Al-Tafsir), Doctrine of Oneness (Al-Tawhid), and Islamic Jurisprudence (Al-Fiqh), and are taught twice a week; while the Holy Qur'an and Sayings of the Prophet (Al-Hadith) are each taught once (Al-Kahaleefah and Haashem, 2010).

Oyaid (2009) observed that there is little ICT integration into pedagogy in Saudi Arabia. Since governments focus was on science and Mathematics, several studies were conducted to identify factors relating to the use of computers to access knowledge and facilitate scientific explanation and mathematical calculations. In his survey, Bingimlas (2009) carried through a questionnaire and interviews with a sample of 241 primary science teachers and 53 supervisors, found low use of computers in general and latest applications of technology in particular in both gender-differentiated schools. The situation in Yanbu educational district was highlighted by Al-Alwani (2005) who examined the contemporary adoption of technology by using 176 questionnaires and 80 focus groups. The findings were that issues of resources including infrastructure, followed by ministry policy and finally attitude dominated adoption of ICT in pedagogy. The e-learning atmosphere in Jazan High Schools was investigated by Jgdame (2009) who found little support for a comprehensive integration of technology into the curriculum. It is evident from the research carried till date, that computer has become a prominent tool in the teaching learning process in the schools irrespective of the field (Al-Khathlan, 2007).

The Ministry of Education in 1996 initiated a project to set up educational resource centres in each school to promote the use of ICT. This can be seen as a precursor of change in education to supply at least basic services to schools (Al-Sulaimani, 2010). In each of these centres a range of tools including computers, projectors, visual and sound equipment and tapes and CDs were made accessible to familiarise the teachers (Bingimlas, 2009). Taking into cognisance the importance of technology in day today life, ten years ago, the late King Abdullah Bin Abdul Aziz allocated the substantial amount of $US2.4 billon to initiate a project that prioritised a digital curriculum for the nation's educational system. The aim of the project was to integrate technology in the classroom and to provide professional development for teachers (Ministry of Education and Ministry of Higher of Education, 2008)

Rationale

Göl (2012) and others, such as Sajjadi (2008) have suggested that there is a far-reaching impact in using technology in religious instruction. The focus of Islamic Studies has been on acquisition of traditional knowledge but researchers have opined that the principles, methods, and content in such pedagogy and curricula in religious education can be enhanced by integrating technology to provide contemporary means of engaging students (Sajjadi, 2008). Technology 'helps in the development of positive thinking, the ability to innovate and to trigger the drive for self-improvement' (Lubis et al., 2011; Oyaid, 2009). Al Mosa (2002), Al-Sulame (2009), Al-Thawadi (2010) and Al-Ighemane (2010) have drawn the attention for professional development for Islamic Studies teachers. This exercise enhances learning methods and also improves the teacher's ability. According to Al-Marshood (2009) Islamic teachers should use ICT because of the potential to enrich students' thinking skills. Al-Thobiani (2008) feels that more research was needed to encourage Islamic teachers to be effective.

A study on the female Islamic Studies teachers is the need of the hour as little research is done in this field. A study in 2013 indicated that in primary school environment, technology is seldom used and is devoid of appropriate skills (Al Mulhim, 2013). Non-availability of appropriate e-learning resource in secondary schools affected the use of e-learning process (Jgdame, 2009). In a comparative analysis of the utilisation of ICT tools, it has been observed that the use of computers and other ICT tools in teaching and learning process by female teachers is far less that their male counterparts (Lentilalu, 2015). To have a clear cut vision of the hindrances which is pivotal for a successful operation of technology aided teaching especially the female Islamic Studies teachers of Saudi Arabia, Alsharidah (2012) suggested that more research is needed to study the attitudes and conditions which discourage the use of ICT.

The impetus to undertake this gender specific study arose in the context of not having enough data to understand the requirements of the female teachers for an efficient use of ICT. Though the primary focus is on the requirements and attitudes, this study emphasizes the fact that with changing times it is important to disseminate latest knowledge available in the field of Islamic Studies. Being the Custodian of Islamic faith, Saudi Arabia in its education system encourages that Islamic Studies is part and parcel of the curriculum from tertiary to the university level.

Recognizing the importance of Islamic Studies in the Saudi society, this study examines female teachers' pedagogical beliefs and attitudes towards technology use and the intention is to make informed recommendations to policy makers and school administrations to alleviate these problems. In addition, it also investigates the issues that impede Islamic female teachers' use of technology in intermediate and high school. Using an investigative research design a written questionnaire was selected as the best approach for data collection and analysis.

In order to gain a comprehensive understanding of the complex issue of enabling proper use of information technology in schools by female teachers, this research

aims to focus specifically on the attitudes of the female teachers of Islamic Studies and inappropriate training they received which have been the focal points to the inadequate use of technology in pedagogy.

This paper explores attitudes and training needs in the use of ICT in Islamic Studies and the implications of these on educational policies and future programmes.

Research question

The following are the research questions that have guided this current study:

(1) What are the attitudes of female Islamic Studies teachers towards ICT?
(2) What kind of training is needed to enhance the use of ICT by female Islamic Studies teachers?
(3) What recommendations can be made to policy makers to encourage efficient use of ICT in teaching Islamic Studies?

While there is no specific study on female Islamic Studies teachers, there is a spectrum of evidence and research that indicate beliefs and attitudes towards technology influence its adoption. These can be influenced by attitudes and beliefs, professional development, training, availability and accessibility to resources, funding and capital, the school environment, educational policy, the presence of a reward system and ultimately leadership. Rogers' Innovation Decision Process theory is a process that is consistent with five stages: knowledge, persuasion, decision, implementation and confirmation (Rogers, 2003). In addition, it is also reiterated that in order to better teacher practice and preparation, greater attention should be paid to the attitudes and beliefs of teachers as these influence teaching practices (Pajares, 1992). Other models include the Technology Acceptance Model (TAM) where Davis et al. (1989) noted that intentions to use technology were influenced by attitude. Thus, to use technology in the classroom, attitude and beliefs need to be recognised as instrumental to developing behaviours in relation to traditional teaching paradigms. These in turn, influence teachers' preferences towards technology (Alsharidah, 2012). In the international context, several studies found that attitudes and beliefs influence teachers' decisions to use technology in the classroom. In Malaysia, Yunus (2007) indicated that positive attitudes towards the use of computers were held by the majority of teachers especially when teaching English as a second language, as they believed this assisted students to improve their English fluency. Similarly, Tearle (2005) found that the majority of British teachers also had a positive attitude towards using technology in teaching and learning.

But attitude is not everything. Professional development is the key to teachers' technical skills and their capacity to effectively use varied media in the classroom. Training programs come in various sizes and numbers and also in varying efficiency and offer various benefits including new instructional strategies, and as some researchers have pointed out, better pathways to integrate ICT in the classroom (Lentilalu, 2015). Numerous other studies also reveal that training supplements technical skills, for example, Afshari et al. (2009) and Garet et al. (2001) have noted that with appropriate training teachers' knowledge and skills in using ICT increased dramatically. Jones (2004) stressed that given the complex nature of training, it is necessary to specifically target pedagogy, skills and technology use in initial stages of teacher-training.

The Department of Education and Training, Western Australia (2006) demonstrated that training on how to integrate technology proved beneficial to those who received this support, in comparison to those who did not. Emphasizing the need for training, Bingimlas (2009) says that about one-third of participant science teachers claimed they had no training. Al-Mousa (2002) recommended that Islamic Studies teachers in Saudi Arabia should receive computer training. Further, Oyaid (2009) reflecting on the schooling system in Saudi Arabia included a range of issues such as inadequate training courses, insufficient time, inappropriate trainers and also using outdated content and a lack of pedagogical training as defects that needed to be corrected as these have paced down the integration of technology in the teaching practices.

METHODOLOGY

As Gall et al. (1996) explain, a questionnaire is common tool used for education research questions and in the context of this particular case study, this proved to be the most appropriate tool due to various sociological and cultural factors. To enable quantitative study, a survey was employed to collect data which was divided into three sections: demographic information, point of view with regard to attitudes and training needs that are required to enhance ICT use.

For the demographic and teacher background information, the first part of the survey, consisted of three questions about the participants, such as educational stages, work experience and number of class sessions per week. Question two consists of seven items related to the female Islamic Studies teachers' attitudes towards using technology in their classrooms. A five point Likert scale format was used to assess female Islamic Studies teachers' attitudes towards using technology (strongly agree (SA) = 5, agree (A) = 4, neutral (N) = 3, disagree (D) = 2, and strongly disagree (SD) = 1). According to McMillan (2008), the Likert-type is the most widely used scale and allows participants to give a positive or negative response degree according to the intensity with which they viewed the statement. Attitudes are measured on Likert scales consisting of five categories, however, the underlying attitudes may be continuous (Bollen and Barb, 1981). Question three consisted of closed questions to determine if training programs would assist the participant in using technology. If a respondent answered yes, an open-ended question then followed to determine the specific training program needs.

Table 1. Educational stages.

Educational level		Frequency	Valid (%)
	Intermediate	43	63.2
Valid	High school	25	36.8
	Total	68	100.0

Table 2. Experience teaching Islamic Studies subjects.

Years of teaching Islamic Studies	N	Valid (%)
10 years or less	32	47
More than 10 years	36	53
Total	68	100.0

The questionnaire was distributed to 87 female teachers in intermediate and high school in Wadi Aldawasir 2017 and only 72 teachers responded out of which 4 were incomplete. The completed 68 questionnaires were analysed. The experiences and opinions were coded as values in order to provide a statistical comparison for research purposes. Questions were derived from a number of previous studies related to the use of technology in teaching learning process (Al-Alwani, 2005; Gülbahar and Guven, 2008; Oyaid, 2009; Alsharidah, 2012)

The percentage of returned questionnaires was sufficient at 83% with 72 surveys returned completed and 4 incomplete. These were evaluated by three experts who were familiar with the use of ICT within education system and three female Islamic Studies teachers. This group was also requested to give feedback and comments to accompany the reliability analysis coefficient which was computed for the questionnaire. Next, a quantitative analysis of inquiry was performed using the SPSS program to statistically test the reliability of the research instrument.

The reliability results were (Cronbach's alpha) = 0.89 for all questionnaire items and the reliability estimates were considered very high and, as far as the results go, acceptable. Further the questionnaire itself was a self-administrated study and in the final stage the reliability of the research instrument was once again tested.

RESULTS

The educational stages

Table 1 shows that 63.2% participants taught in intermediate school and 36.8 taught in high school. The years of experience in teaching Islamic Studies are shown in Table 2. Table 2 shows participants' teaching experience, with half (47%) having 10 years or less' experience while the other half of the study participants (53%) had more than 10 years' experience.

The number of class participants (female Islamic Studies teachers) delivered each week is shown in Table 3. More than half of the participants (67.6%) had 18 or more than class sessions, with 32.4% having 17 or less sessions per week.

Table 4 contains seven items related to participants'

attitudes and beliefs towards using technology in the classroom. Mean values shown were in the range of 'strongly agree' (5) and 'agree' (4) with values of 3.69 to 4.38. However, the majority (90%) of participants believe in the importance of using ICT in the classroom with 63% of Islamic teachers believe that ICT is easy to use in teaching; however, a small minority (18%) indicated they did not agree. The overall mean for attitudes and beliefs towards using technology was 4.09. This indicates that female Islamic Studies participants reported strong positive attitudes related to the use of ICT in their teaching.

Teachers' needs regarding ICT use

The survey offered respondents a chance to respond as to whether the professional development for incorporating ICT in pedagogy needs training or not. Participants were asked to indicate 'yes' or 'no' and Table 5 reveals that majority (81%) of the participants responded as 'yes. Most female Islamic Studies teachers who answered 'yes' nominated the training they would prefer. The most frequently repeated suggestions were: Using digital projector (39 comments); How to use a computer in education (25 comments); MS-Power Point in education (23 comments); How to use Social networking applications in Education (21 comments); How to use smart board in classroom (18 comments); and Integration of technology in education (7 comments).

Relationships between participants' experience and teachers' attitude

An independent samples t-test was conducted to compare the teachers' attitude scores for teachers who have 10 years or less experience and those who have more than 10 years. There was no relationships between teachers' experience and their attitude (t (66) = 0.011, p = 0.992 > 0.05).

Table 3. Grouped numbers of classes per week.

Parameter	Classes	Frequency	Valid (%)
	17 or Less	22	32.4
Valid	18 or More	46	67.6
	Total	68	100.0

Table 4. Teachers' attitudes regarding technology in class.

Statement	SA*%	A*%	N*%	D*%	SD*%	M	St. Dev
I believe in the importance of using ICT in the classroom	49	41	10	0	0	4.38	0.670
I like using ICT in teaching	32	53	13	1	0	4.16	0.704
I believe using ICT will improve my teaching	34	46	17	3	0	4.10	0.794
I enjoy using ICT in the classroom	40	44	15	1	0	4.22	0.750
I believe ICT is easy to use in teaching	23	40	19	18	0	3.69	1.02
I believe that the use of ICT enhances students' academic achievement of Islamic Studies	35	43	19	3	0	4.10	0.813
Teaching with ICT is more effective than teaching without ICT	32	42	15	10	0	3.97	0.946
Total	-	-	-	-	-	4.09	0.682

*As percentages based on strongly agree (SA) = 5, agree (A) = 4, neutral (N) = 3, disagree (D) = 2, and strongly disagree (SD) = 1.

Table 5. Need for professional development.

Teachers' training needs	Frequency	%
Yes	55	81
No	13	19

Relationships between teachers' classes per week and teachers' attitudes

An independent samples t-test was conducted to compare participants' attitude scores and teachers who have 17 classes per week or less and those who have 18 classes per week or more.

Table 6 shows significant differences between the means of teacher attitude who have 17 classes per week or less and those who have 18 classes per week or more (t (66) = 4.51, p = 0.000 < 0.05). Table 6 shows that teachers who have 17 classes per week or less have greater attitude to use ICT (M =4.55) than those have 18 classes per week or more (M = 3.87).

Relationships between educational stages and teachers' attitude

An independent samples t-test was conducted to

Table 6. Relationship between teachers classes per week and teachers' attitude.

Variable	Classes per week	N	M	SD	t	df	Sig. (2-tailed)
Teachers' attitude	17 or Less than	22	4.55	0.485	4.51	66	0.000
	18 or More than	46	3.87	0.633			

compare the teachers' attitude scores for teachers who taught in high school and those who taught in intermediate school. There were no relationships between teachers' educational stages their attitude (t (66)= -1.37, p = 0.173 > 0.05).

DISCUSSION

In this study, it was found that female Islamic Studies teachers in Saudi Arabia have an overall positive attitude towards integration of ICT in their teaching and learning and a willingness to use ICT in the classroom. This is in confirmation with the studies carried out by Pajares (1992), Davis et al. (1989), Rogers (2003), and Alsharidah (2012) who noted that attitudes towards technology impact adoption and integration ICT in the classroom. This study is also consistent with Yunus (2007), Tearle (2005), and Lentilalu (2015). In the absence of related studies which talked about the impact of attitudes or needs for training, the paper could not discuss the study in relation to previous studies. Hence, this study may be considered a pioneering effort in this direction.

The results reveal that there are significant differences between the mean values of teachers' attitudes and the number of classes teachers have in a week. Those who have 17 classes per week or less are more likely to have positive attitude towards the use of ICT in the class room compared to those who have 18 classes per week or more. Also, there is no relationship between teachers' experience and teachers' educational stages, and their attitude. In view of these findings, Ministry of Education should encourage schools to give teachers a workload of no more than 17 classes per week.

Teachers have suggested some training programs they needed which include "How to use digital projector?", "How to use a computer in the field of education", "MS-Power Point in Education", "How to use social networking applications in education?", "How to use smart board in classroom and integration of technology in education." These findings are similar to many studies related to areas other than Islamic Studies that recommended ICT training for in-service teachers (the Department of Education and Training Western Australia, 2006; Al-Mousa, 2002; Afshari et al., 2009; Garet et al., 2001).

The Ministry of Education should also focus on what is needed to improve teachers' ICT skills as this move would encourage female teachers to use ICT effectively.

Conclusion

The findings of this study indicate that female Islamic Studies teachers have a positive attitude towards using ICT.

The results indicate that a range of steps should be taken to encourage the use of ICT in classrooms, and especially to provide support for female Islamic Studies teachers. The following are a few recommendations made:

(1) The Ministry of Education needs to address issues related to workload which is no more than 17 classes per week to encourage teachers to use ICT.
(2) The Ministry of Education needs to ensure that specific programmes such as "How to Use Computers," "Using the Internet as well as Basic Programmes in PowerPoint, Photoshop and Word" are made available to teachers.
(3) School's administration needs to provide interactive whiteboards, digital projectors, and overhead projectors and ensure that these are being used adequately in education.
(4) Students undertaking educational training at the universities should study at least one technology unit as a requirement course where the most recent computer software and internet tools are introduced.

Researchers such as Al-Ighemane (2010), Al-Mousa (2002), Al-sulame (2009), Al-Thawadi (2010), Bedaiwi (2008), Lentilalu (2015) and Alsharidah (2012) have in the past recommended certain programmes which have become redundant. This study is relevant to the recent days as it brings out data related to the recent years and serves as a tool of reform for the Ministry of Education and School Administration in being more proactive in supporting Islamic Studies teachers play a proper role as educators. This study contributes to the existing body of research regarding teachers' attitude and need for training in utilizing ICT in the classroom. Future researchers need to consider the in-depth qualitative studies to investigate female teachers' level of ICT skill when they use ICT in the classroom.

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