

# INFORMATION AND COMMUNICATION TECHNOLOGY IN TEACHING AND LEARNING AMONG ISLAMIC EDUCATION TEACHERS: THE ROLES

Wan Ismail Wan Abdullah<sup>1</sup>  
Nur Ilyiani Kamaruzaman<sup>2</sup>  
Abdul Hakim Abdullah<sup>3</sup>  
Abdulsoma Thoarlim<sup>4</sup>  
Razi Yaakob<sup>5</sup>  
Daud Ismail<sup>6</sup>  
Hamdan Aziz<sup>7</sup>

## Abstract

*The aim of this study is to investigate the level of knowledge of Islamic Education Teachers Teaching Graduate Program UniSZA on the role of information and communication technology applied in their teaching and learning activities. The respondents consisted of Islamic Education teachers who are currently enrolled in Teaching Graduate Program at UniSZA and the samples of the study have involved 230 of respondents. Data was collected by using a questionnaire and was constructed to test the roles of Information and Communication Technology applied in teaching and learning activities that engage respondents. Data were analyzed by using the Statistical Package for Social Science v.22 for Windows (SPSS) to obtain mean and percentage frequency. Reliability of item questionnaires was obtained based on a pilot study conducted prior to the actual survey. The results of the pilot study reliability for the item level use of Information and Communication Technology is .87. The results of descriptive statistical analysis showed a HIGH consumption level of roles about information and communication technology among respondents involved in this study. The quality of services among teachers and student's academic achievement can be improved when Information and Communication Technology were used in teaching and learning activities.*

**Keywords:** *Information and Communication Technology, Teaching and Learning, Islamic Education, Teaching Graduate Program.*

2016 GBSEJournal

---

<sup>1</sup> Lecturer, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Terengganu, Malaysia. Tel: +60-199818997 E-mail: oneweil97@gmail.com

<sup>2</sup> Student, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Terengganu, Malaysia. Tel: +60-139035853 E-mail: ey\_lea@yahoo.com.my

<sup>3</sup> Lecturer, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Terengganu, Malaysia. Tel: +60-139333242 E-mail: hakimabd@unisza.edu.my

<sup>4</sup> Lecturer, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Terengganu, Malaysia. E-mail: abdulsomad@unisza.edu.my

<sup>5</sup> Lecturer, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Terengganu, Malaysia E-mail: raziyyakob@unisza.edu.my

<sup>6</sup> Lecturer, Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin, Gong Badak Campus, 21300 Kuala Terengganu, Malaysia E-mail: daudismail@unisza.edu.my

<sup>7</sup> Lecturer, Universiti Malaysia Terengganu. E-mail: hamdan.aziz@umt.edu.my

## Introduction

The use of Information and Communication Technology (ICT) in education and teaching and learning (T&L) process have given a good impression and helpful to consumers, especially those who involved in education either at the school level or at higher education institutions. The progress in information and communications technology (*Information and Communication Technology - ICT*) has increased the internet usage, website (*web page*) and the network (*networking*) in education. This new development has been creating a new learning environment that is more flexible in terms of time, place, method and learning materials (Abu Bakar Nordin, 1991).

Years recently, there are some important changes that have occurred in the education system in the Asian region; particularly the teachers are required to upgrade the skills of their information and communications technology (Tan et al., 1999 in William, 2000). These changes continue to grow rapidly along with the arrival of the 21st century. These changes are more oriented by using Information and Communication Technology (ICT) in teaching and learning system (T&L) compared to the previous time in education.

Therefore, to improve the level of information and communication technology skills among teachers many remains have to be done. This is evidenced by several previous studies showing that many teachers have not been able to master the skills of information and communication technologies. Familiarity this situation often refers to the teachers serving in rural and remote areas (Mohammed Sani et al., 2004; Noor Awanis, Nora & Nurazariah, 2006; Megat Aman Zahiri et al., 2008).

According to Johan (2005), some problems such as difficulty and inefficient integration of information and communication technologies in teaching and learning activities still occurs in schools although there are several studies that have been shown that there is an enhancement of students with cognitive aspects of information and communication technologies usage in teaching and learning.

Meaningful learning can be achieved through the use of the resources of the Internet by students. However, this situation will not happen as long as the teacher does not have knowledge that can help facilitate the use of information and communication among students (Sunal, 1996).

Robert Taylor (1980), have suggested three roles of Information and Communication Technology of computers in education. The role is a '*Tutor*', '*Tool*' and '*tutee*' also known as '3T'. As a '*tutor*', the computer serves as instructor of Computer Aided Teaching approach the computer used by teachers to convey a lesson.

The role of the computer as a '*Tool*' is also a computer becomes a tool to facilitate the process of teaching and learning, such as in the context of integrated Computer Teaching. Computer integrated teaching is the use of computers to achieve the objectives of teaching and learning. It can also be said to be the use of computers across the curriculum.

Next, the computer role as '*tutee*' also is a computer that serves as a tool to learn. Normally, this process occurs when students give instructions to the computer via the supplied program itself. The program is a technical process and most of the students are not fond of the

computer role as '*tutee*' this. In the world of education today, the computer role as a '*Tutor*' and '*Tool*' were much obliged compared as a '*tutee*' (Zoraini, 1993).

There are few studies of interest to educators and students available from this study. The importance of research to the educators of teachers and lecturers are expected educators can use and apply the use of information and communication technology (ICT) in teaching and learning activities (T&L) with a more convenient, attractive and broadly in line with those who accept science namely students.

The efficiency and effectiveness of learning outcomes through the use of information and communication technologies in teaching and learning activities can be enhanced. This is because, prior to carrying out teaching and learning activities, teachers can make arrangements in advance via the search information concerning the teaching and thus can convey to students more effectively. In addition, the process of teaching and learning will be easier, concise and interesting. It also can prevent the students to feel tired and bored when teaching and learning, but also will lead the students more active because of the fun learning atmosphere.

Teaching and learning activities can be varied by using information and communication technologies and not only focused on traditional teaching methods alone can even improve the quality of teaching by using the various facilities available in the information and communication technology. Descriptions of the subjects taught can be explained in more depth and detail through the use of information and communication technologies. Further, the use of information and communication technologies in teaching and learning activities to both sides can also save time, energy and money. This is because the use of information and communication technology is faster, easier and in accordance with the conditions and environment within the students themselves. Finally, the researchers hope that the results of this study can be used as a source of reference and guidance to those involved in improving the quality of teaching and learning activities through the use of information and communication technologies.

## **Method**

This research is a descriptive study using a questionnaire as an instrument. The quantitative approach is a study in which researchers make decisions about what to study, produce and direct specific questions, collect data from respondents, analyzing data collected through statistical methods and making decisions without bias (Creswell, 2005).

To identify the transformation of information and communication technologies in teaching and learning of Islamic Education Teachers in Teaching Graduate Program, this study uses a questionnaire that has been converted from Cheah et al (2010) and Nur Iyliani (2013) and processed as appropriate in accordance with the purpose and objectives of this study. This questionnaire was used because there is a great relationship with the study. To test the reliability of the questionnaire items, a pilot study was conducted and Alpha Cronbach value of 0.85 was obtained.

According to Mohd. (1998), the value of Alpha Cronbach more than 0.80 showed high reliability values. Based on the obtained value of Alpha Cronbach, it can be concluded that the questionnaire has high reliability values. In this study, the questionnaire is divided into

three parts, namely Part A, Part B and Part C. Part A consists of Respondents Background, Part B consists of a Role Information and Communication Technology in Teaching and Learning Activities and section C consists of Level Use of Information and Communication Technology in Teaching and Learning Activities using Likert Scale 5 points.

*Likert* scale is used to facilitate the work of interpreting the data collected. *Likert* scale of five points ranging from Strongly Disagree (SD), Disagree (D), Not Sure (NS), Agree (A) and Strongly Agree (SA) were used in this study because it can provide feedback more clearly than respondents for this study (Sharmizal Suhaidal, 2008). The study population consisted of all Islamic Education Teachers (GPI) which is currently enrolled in Teaching Graduate Program (PPG) in UniSZA, Terengganu (N = 503). Meanwhile, the study sample, there were 230 people which consist of members from smaller groups that were selected from the studies population as the studies sample. The selections of the respondents involved in this research are randomly made through sampling method with reference from the 'Table for Determining Sample Size by Krejcie & Morgan (1970)'.

### **Data analysis**

In this study, the methods of analyzing data by using SPSS (Statistical Package for the Social Sciences) version 22 for Windows was used to analyze the obtained data. The data from the questionnaires were analyzed to obtain the percentage of frequency and the mean score. The obtained interpretation of mean scores are then categorized in three levels, 1.00 to 2.50 = Low, 2.51 to 3.50 = Moderate and 3.51 to 5.00 = High.

### **Respondent Demographics Analysis**

The respondents comprised of 230 teachers of Islamic education who served in three states on the East Coast. In terms of categories of school, the majority of respondents were teaching in primary schools n=210 (91.3%) compared the respondents that were teaching in secondary schools, n=20 (8.7%). In terms of gender, the majority of respondents were female teachers, n=184 (80%) compared to male teachers n=46 (20%). This is a common phenomenon in many schools in Malaysia where the number of female teachers is greater than the number of male teachers.

Next, through the ages, the majority of respondents were aged between 41-50 years, that is n=210 (91.3%) compared with teachers who are in the group of aged between 31-40 years (n=14, 6.1%) and aged 51 years and above (n=6, 2.6%). Meanwhile, in terms of level of education, the majority of respondents had a diploma of education, n=155 (67.4%) compared with certified teacher of n=75 (32.6%).

Through the country served, most respondents are from state of Kelantan at n=134 (58.3%), followed by respondents from the state of Terengganu, n=87 (37.8%) and lastly the state of Pahang, just total n=9 (3.9%). In terms of length of service, data showed the teachers who served between 11-20 years old (n=177, 77%) more than the teachers who served between 21-30 years old (n=49, 21.3%), while the teachers whom were served between 1-10 years there is only n=10 (1.7%). Detailed demographic backgrounds of respondent sample are presented in Table 1 below:

Table 1: Demographics of Respondents Background

Demography	Category	Number	Percentage
Schools Category	Primary School	210	91.3
	Secondary School	20	8.7
Gender	Male	46	20
	Female	184	80
Age	21-30 years		
	31-40 years	14	6.1
	41-50 years	210	91.3
	51 years and above	6	2.6
Educational Status	Teaching Certificate	75	32.6
	Diploma in Education	155	67.4
Serving State	Pahang	9	3.9
	Kelantan	134	58.3
	Terengganu	87	37.8
Service Period	1-10 years	4	1.7
	11-20 years	177	77
	21-30 years	49	21.3
	31 years and above		

### Distribution of Frequency Percentage Analysis and Mean Score Respondents ICT Role of Islamic Education Teachers in Teaching and Learning Activities

Table 2: Distribution of frequency percentage and mean score of respondents to the role of ICT in Teacher Education in Islamic teaching and learning activities.

Statement	SD (1)	D (2)	NS (3)	A (4)	SA (5)	Mean
The use of ICT is helping me to interact with the students to discuss the activities of T&L.	-	8 3.5	28 12.2	157 68.3	37 16.1	3.96
The use of ICT is important in teacher T&L activities.	-	1 0.4	3 1.3	133 57.8	93 40.4	4.38
ICT is one of the main communication medium in the process of the T&L in this era.	-	1 0.4	10 4.3	129 56.1	90 39.1	4.33
Teaching approach can be modified through the integration of ICT in the activities of the T&L.						
1. T&L becomes more interesting.	-	1 0.4	2 0.9	144 62.6	83 36.1	4.34
2. T&L easier to understand.	-	1 0.4	12 5.2	146 63.5	71 30.9	4.24
3. T&L becomes more meaningful.	-	2 0.9	15 6.5	139 60.4	74 32.2	4.23

4. T&L becomes more fun	-	-	4 1.7	129 56.1	97 42.2	4.4
5. Submission of T&L becomes clearer.	-	1 0.4	11 4.8	141 61.3	77 33.5	4.27
Quality T&L process can be enhanced through ICT.	-	-	8 3.5	159 69.1	63 27.4	4.23
ICT facilities in schools to raise my spirits for use in T&L activities.	1 0.4	18 7.8	29 12.6	154 67	28 12.2	3.82
<b>Average</b>						<b>4.22</b>

According to Table 2, which shows the distribution of percentage frequency of respondents' knowledge about the role of Islamic Education Teachers of ICT in teaching and learning activities, the statement "approach to teaching can be changed through the integration of ICT in the activities of the T&L because T&L is more fun" has the highest mean value of 4.4. A total of 129 respondents (56.1%) 'agree' with this statement and respondents 'strongly agree', there were 97 patients (42.2%). The second highest mean value is representing the 4.38 of the item "Use of ICT is important in teacher T&L activities". A total of 133 respondents (57.8%) who 'agree' with this statement, while a total of 93 respondents (40.4%) were 'strongly agree'.

For items that represent the third highest mean value also is the statement "approach to teaching can be changed through the integration of ICT in the activities of the T&L because T&L is becoming more attractive" of 4.34. The number of respondents who 'agree' with this statement is a total of 144 patients (62.6%) and a total of 83 respondents (36.1%) were 'strongly agreed' with the statement. In addition, the statement "ICT is one of the main communication medium in the process of the T&L in the time now" has gained a mean of 4.33 and the found total of 129 participants (56.1%) 'agree', 90 respondents (39.1%) 'strongly agree' and 10 respondents (4.3%) were the other 'not sure' with the statement.

The statement represents the mean value of 4.27 also is the statement "approach to teaching can be changed through the integration of ICT in the activities of the T&L because T&L becomes clearer presentation". A total of 141 respondents (61.3%) 'agree' with this statement and respondents 'strongly agree' similarly, a total of 77 patients (33.5%). For items that represent the mean value of 4.24 also is the statement "approach to teaching can be changed through the integration of ICT in the activities of the T&L because T&L is more easily understood." There were 146 respondents (63.5%) who agree to this statement, while 0.4% (n = 1) was 'disagree' with the statement. Meanwhile, there are two statements that have the same mean value of 4.23. The statement is "Teaching Approach can be changed through the integration of ICT in the activities of the T&L because T&L is more meaningful" and "Quality of T&L process can be enhanced through ICT".

The statement represents the mean value of 3.96 also is the statement "The use of ICT is helping me to interact with the students to discuss the activities of T&L". A total of 157 respondents (68.3%) agree, 8 respondents (3.5%) thought 'disagree' and 28 respondents (12.2%) thought it was 'not sure' with the statement. Further, the statement that has the lowest mean is the statement "ICT facilities are available at the school to raise my spirits for use in T&L activities" of 3.82. A total of 28 respondents (12.2%) thought it was 'strongly agree', 154 respondents (67%) thought it was 'agreed', 29 respondents (12.6%) thought it was 'not

sure', 18 respondents (7.8%) were of the opinion 'not agreed' and there is only one respondent (n = 1), i.e. 0.4% thought 'strongly disagree' with the statement.

## **Discussion**

This study was conducted to assess the level of knowledge about the role of Information and Communication Technology among Islamic Education Teachers in Teaching Graduate Program UniSZA in their teaching and learning activities. The results showed that the mean score for their consumption levels are at high level, which were 4.22. The study found that the Islamic Education Teachers in Teaching Graduate Program UniSZA has a high level of knowledge about the role of information and communication technologies applied in their teaching and learning activities.

Among the factors contributing to the high level of knowledge of the role of this is that most of these teachers have had early exposure on the use of information and communication technology in their lives, solely not for use in schools only. In addition, they are also well aware that the use of information and communication technologies in teaching and learning activities is one of the important elements in education, especially in the age of globalization now. This because, with information and communication technology, a teaching and learning activities can be implemented more interactive and efficiently compared to traditional teaching and learning.

Thus, in the vicinity of growing the information communication and, the teacher should play as agents of change. This goal requires a positive attitude towards information and communication technologies and initiatives can be initiated about the role of information and communication technology itself in teaching and learning activities and then integrate these applications in teaching and learning, which in turn will be benefit the students (Johan, 2005). Overall, the use of information and communication technologies is increasingly important in generating and developing ideas and creativity of the educators in the teaching and learning process. To increase the use of information and communication technologies in teaching and learning activities, teachers should be exposed to the concept, role, knowledge, use and importance of information and communication technologies from an early stage (Noraini, 2002). In addition, through the courses of information and communication technology, the level of knowledge of information and communication technology among teachers can also be enhanced.

## **Conclusion**

Performing work brilliantly and efficiently is emphasized in the age of information technology today. Productivity, efficiency and effectiveness can be improved through the usage of information and communication technologies. It should be understood that, the correctly use of information and communication technologies will make the mandate, functions and responsibilities will be carried out smoothly and effectively. Due the rapidly growing to the phenomenon of information and communication technology, it attracts researchers to conduct a study on Transformation Usage of Information and Communication Technology in Teaching and Learning Activities among Islamic Education Teachers in Teaching Graduate Program UniSZA.

## Suggestions

Present and future teachers will be able to use and apply the information and communications technology in teaching and learning activities more widely and effectively to improve the student achievement and also for the teachers' quality of services.

## Acknowledgment

Special appreciation and acknowledgement to the Deputy Vice Chancellor (Academic and International) and the Faculty of Islamic Contemporary Studies, Universiti Sultan Zainal Abidin (UniSZA) for their support and encouragement towards the completion of this article.

## References

- Johan, E. L. (2005). Study on Skills and Confidence Level of Application Master of Information Technology (ICT) in Teaching and Learning in Secondary School Kudat, Sabah. Master's Thesis. Universiti Teknologi Malaysia. (In Malay)
- Krejcie, R. V., & Morgan, D. W., (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement*.
- Megat Aman Zahiri, M. Z., Baharuddin, A., & Jamalludin, H. (2008). ICT skills among UTM trainee teachers: A review. Paper presented at the 1st International Malaysian Educational Technology Convention. Kuala Lumpur. August 28. (In Malay)
- Mohd., M. K. (1998). *Research Methods in Education*. Kuala Lumpur: Dewan Bahasa dan Pustaka. (In Malay)
- Mohammed Sani, Nordin, M. & Roslee, M. (2004). ICT culture among Teachers of Science and Mathematics: Trends and Issues. *Journal of Educational* **7**: 15-24. (In Malay)
- Nur Iyliani Kamaruzaman. (2013). Effect of Information and Communication Technology in Learning Activities among Students Bachelor of Education (Islamic Education) Year 4 Universiti Sultan Zainal Abidin Terengganu. Unpublished Bachelor's Thesis. Universiti Sultan Zainal Abidin. (In Malay)
- Noor, M. A., Nora, D. Y., & Nurazariah, A. (2006). Perception of Teachers on the Use of Information and Communication Technology. Paperwork Presentation Seminar whether present. Terengganu. August 19 to 20. (In Malay)
- Noraini, A. (2002). Readiness Level Master in Computer Based Information Technology Usage For Teaching and Learning of Science. Project Graduate Education. Faculty of Education. Universiti Kebangsaan Malaysia, Bangi. (In Malay)
- Sharmizal Suhaidal, A. B. (2008). Study on Issues Faced by Current Science Teacher Trainers Teaching Undergo Training. Unpublished thesis. Skudai: Faculty of Education, Universiti Teknologi Malaysia. (In Malay)
- Sunal, D. W. (1996). The Impact of Network Communication Technology on Science Teacher Education. *Journal of Computers in Mathematics and Science Teaching*, **11** (2): 143-153.
- Taylor, R. P. (1980). *The Computer In The school: Tutor, Tool, Sautee*. New York: Teachers College Press.
- William, M. D. (2000). *Integrating Technology into Teaching and Learning: Concepts and Application (An Asia-Pacific Perspective)*. London: Prentice Hall.



Zoraini, W. A. (1993). *Computers in Education*. Selangor: Publishing Fajar Bakti Sdn. Bhd.  
(In Malay)