# Integration of Modern ICTs as Modes of Instruction for Islamic Education in Higher Institutions of Learning

AbdulSwamad Gyagenda

PhD Candidate, Department of Curriculum and Instruction, Islamic University in Uganda Email: gyagendaabdul@gmail.com | a.gyagenda@iuiu.ac.ug

# Abstract

Islamic education has largely been taught using traditional methods. The world has changed in so many aspects of life. Technology has affected all sectors including the teaching-learning environment. Use of electronic materials to search for knowledge and using multimedia for content creation can no longer be separated from education. These developments have to bring a paradigm shift in the mode of instruction of Islamic education in the contemporary world. In this paper, there's an analysis of the existing literature about the ICT use in the teaching-learning environment. The researcher recommends a blend and balance between the traditional methods and use of modern technologies to enhance the instruction of Islamic education.

*Keywords*: Islamic education, instruction, ICTs, holistic personality

One of the major challenges facing Islamic education in the contemporary world is stagnation in terms of pedagogy and methodology which is mainly characterised by imitation, memorisation, heavy and corporal punishments especially at foundational stages and the fact that it ignores the ideas of creativity and instilling critical thinking abilities within learners (Syah, 2016). There is need for Islamic education teachers and instructors to make a pedagogical shift from the traditional methods of teaching the subject (such as memorisation, indoctrination of rituals, storytelling and sayings of the early scholars, relying on the medieval and classical work) to either moving towards the modern methods of instruction or integrating the two methods (Lubis et al., 2011). However, in Singapore, it was discovered that Islamic education instructors were not ready to change or mix the traditional methods with the contemporary ones because they believed that they had to teach in the same design they were taught (Ishomuddin & Mokhtar, 2017). Back in the days, there was a myth that Islamic education had to be taught only in Arabic language, but much as this language is vital for anyone specializing in the discipline, the reality remains that there are many non-Arabic speakers who have picked interest in studying Islamic related courses, especially through English medium. As the old tradition is modified, new methods of teaching the subject such as (brainstorming, role play, presentation, e-learning, discussion, quiz sessions and exercises) have been successfully conducted in some parts of the world such as Indonesia and Malaysia, and have been found to facilitate the teaching of Islamic education (Aziz et al., 2016). If the philosophy of teaching Islamic education of training a holistic, all-round Muslim who is spiritually sound and physically ready to serve the community is to be achieved, then a variety of methods have to be used during the process of instruction (Mustaffa & Rashid, 2018). Teaching methods that stimulate students to think like brainstorming, analogy, Socratic questioning inquiries and cooperative learning encourage the students to follow more as compared to lecture method in teaching (Noh & Kasim, 2012).

According to the latest report by UNESCO 2020 in line with SDG 4 on the availability of electricity, computers and internet in schools for pedagogical purposes, it reveals that sub-Saharan Africa is still behind with only 23% students having accessibility to these resources (Montoya, 2021).

## **Traditional Methods of Teaching Islamic Education**

The instruction of Islamic education can be traced back to the early days of Islam, during the lifetime of Prophet Muhammad (s.a.w) (Baiza, 2018). He taught his companions the Islamic doctrine and rituals as well as morals, justice and other virtues. He used a variety of methods such as (exemplary behaviour, mentorship, lecture, simple reminders and words of wisdom) while teaching people depending on the dynamics such as age, character, level of understanding, gender and ethnic background. He mostly taught in his Mosque in Madinah and sometimes taught in other places whenever he was caught in a teachable moment, for instance he would teach at the battle front, in the markets and other places. During the time of the Prophet's companions after his death, they carried on his legacy (Asik, 2017). They taught Islam to the new converts especially those that migrated to Madinah, they taught people how to recite the Qur'an, how to perform prayers, fasting and other basic Islamic rituals and they would also use the Prophet's Mosque and sometimes gather in one of the houses of the companions (Karima, 2017). They would gather in small numbers and form semicircles around the teacher / instructor who would then recite as they repeated until they memorised (Armstrong, 1991). There was minimal reading and writing because the materials for writing were less and not so many people were literate, the small circles of learning were referred to as

*halaqa* and the knowledge transmitted was basic only on the level of elementary education (*kuttab*) (Armstrong, 1991).

During Umayyads' period (661-750), learning took a different twist as the Muslim scholars were involved in search for the truth and authenticity of Islamic literature and hadith authentication of both the content (matin) and chain of narrators (sanad) took place, the four major Sunni Islamic schools of thought were developed and the Juristic verdict mode of teaching was common during this time. (Khan, 2012). During the Abbasid regime (750-1258) most especially in the reign of Haruna Rashid, Mamun and Amin, learning had developed to a level where learners reviewed books and manuscripts and were ordained to transmit knowledge on their own. The Seljuke Sultan Alp Arslan developed the traditional schools from the level of elementary learning (kuttab) to the level of advanced learning (Madāris or madrasa in singular), this level of education was more like the modern-day level of university and was headed by the legendary Imam Al-Ghazali (Akhtar & Rawat, 2015). Teaching was more rigorous and deeper where research was done to solve societal problems from within the House of Wisdom (Baitul-hikma), this education included rituals, science, philosophy, social studies and other disciplines (Othman & Mohamad, 2014).

The traditional methods of teaching Islam have to be re-enforced with modern ones because the new generation of learners has embraced technology, and also, orientalists and Islamophobs have used similar platforms to disseminate wrong information about Islam and unless the Islamic education instructors occupy this space, learners will always access false information about Islam (Haque, 2016).

Modern methods for instance use of e-resources and online distance learning of teaching Islamic education in countries such as Malaysia focus on the learner-centred approach aimed at producing a holistic personality (Othman & Mohamad, 2014). Information Communication Technology (ICT) is used in all most all sectors including aiding education in various ways such as creation of content, research of educational materials, collaborative learning and teaching (Ghavifekr & Rosdy, 2015).

## Methodology

The method used in this study was purely library research which aimed at analysing the existing body of literature in an attempt to find ways of relating the concept of Islamic education instruction with information communication technologies.

#### **ICTs as Instructional Methods**

The philosophy of Muslim as well as Islamic education is comprehensive, wide and it is intended to build the character of the learner bodily, mentally and spiritually; and the values of Islam are rooted both in the Qur'an and from the tradition of Prophet Muhammad (s.a.w) (Faryadi, 2015). With the twenty-first century learner, the general aims, objectives and goals of Islamic education cannot be fully achieved by only relying on the traditional methods such as memorising the Qur'an and hadith. The Islamic education instructors need to shade off the phobia for technologies and advanced communication channels in order to connect well with learners and also alternate in the methods of content delivery (Engkizar, et al., 2017). Islam itself as a religion has always existed in geographical, political and generational contexts, and the factor of globalisation cannot be underestimated in the design of the curriculum for Islamic education. Also, the aspect of digitalisation of Islamic education should be prioritised (Nawi, et al., 2012).

As the world is becoming increasingly dependent on ICTs, education is also not left behind. New emerging curricula and syllabi are designed in such ways that they integrate the use of modern technologies in the process of teaching and learning. For Islamic education, since the old methods of teaching and learning the subject are turning obsolete, developed Muslim countries such as Malaysia and Brunei have trained both teachers and learners in computer literacy necessary for instruction to take place (Lubis, et al., 2010).

Some Muslim teachers and learners have already demystified the myth of relying on only the old methods, and they use animations, audiovisual content, online text and a combination of other multimedia to teach and learn Islam (Engkizar, et al., 2017). The use of ICTs enhances motivation on both sides, creates space for critical thinking and arouses the learners' interest to learn.

Some practical aspects of Islamic education such as pilgrimage are difficult to teach theoretically, where the descriptions and explanations made in classroom and lecture room environments may not be sufficient to help learners grasp the concepts fully. Training simulations in form of animations can be developed and learners instructed through virtual reality. Games can also be availed to learners in order to motivate and arouse their interest to learn (Abulatifeh, 2011). However, ICTs are not without limitations. Islamic education deals with certain fundamental aspects such as morals and discipline which require human interaction such as assessment through observation, collaborative guidance and deliberate contextualised processes (Miranda, 2007).

The use of cloud computing is possible for both Islamic education instructors and learners where information from trusted sources can be shared through secured cloud technologies such google drive, drop box and others to make teaching and learning effective and interesting (Irgashevich, 2020).

In the university of Malaya, it was proven that the use of power point in the process of teaching Islamic education courses was not only pedagogically effective and efficient but also a better alternative and complement to the traditional methods (Zedana, et al., 2015). Islam in itself is holistic therefore modern scientific methods in teaching and learning can be used to supplement the traditional modes and also integration of Islamic content in all available disciplines (Ashaaria et al., 2012). In Premier University in Malaysia, a significant number of Islamic education instructors lack adequate skills and knowledge about scientific and technological methods of teaching and how to blend them with the traditional techniques, thus universities should train Islamic education lecturers in using modern ICTs to teach the subject (Alhirtani, 2020).

## ICT as Tools of Research for Islamic Education Content

There is a lot of information and knowledge about multiple disciplines in the cloud, which knowledge also contains huge volumes of Islamic materials that can enhance teaching and learning. This knowledge can be tapped from anywhere in the world and much of it is accessible, however the challenge is about the mindset, attitude and readiness of both the teachers and learners (Hashim, 2017). In the United Arab Emirates, a predominantly Muslim state, it was revealed that the Islamic education instructors' perceptions about integrating modern ICTs in the teachers relied more on the computer-based resources as compared to the online resources (Alzouebi, 2019).

In the Kingdom of Saudi Arabia, a study was conducted to examine the perception of female Islamic teachers on using ICTs in the teachinglearning process. The results revealed that they were positive, and the government was advised to equip learners and teachers with basic computer literacy skills such as power point, MS-word, Excel and internet search engines to enhance teaching and learning (Alsharidah, 2018).

Alzouebi (2019) seems to allude to the suggestion that teachers from the traditional pedagogical orientation perceive themselves as content bearers and knowledge givers whose relevance in instruction would be in jeopardy after embracing the ICT integrated model. However, the same teachers can be trained in ICT literacy and use the other pedagogical skills to arouse the learners' enthusiasm and curiosity to seek knowledge by all methods available. For the case of Islamic education, teachers traditionally develop an attachment towards learners and the conservative mentality may hinder the progress of technological integration in the teachinglearning environment. The fear may also be embedded in the teachers' trust towards the sources of information as the internet and technologies are a huge pile of both good and bad, whereas the learners could be availed with credible sources, it thus becomes the duty of the teacher to train the learners' minds to read between lines and be able to distinguish between relevant and reliable information and to have an eye that can detect falsehood hence freely navigating the internet without fear. Besides, Sartika et al. (2018) recommend teachers not be afraid of new technologies and not to perceive them as a replacement for their jobs but rather to blend and use modern ICTs as conduits to reach out to learners.

Undoubtedly, the internet has volumes of Islamic education resources for all levels in terms of e-books, animations, modules, short and long videos on YouTube and Facebook among other sites. The perception of some teachers in African institutions seems to be locked in the classic methods of extracting Islamic knowledge and information from ancient sources but once students and instructors of Islamic education are equipped with basic skills of browsing the internet, they can tap in both classical works and contemporary publications in order to enrich their levels of exposure (Ajani et al., 2013).

The issue of perceptions and attitudes is always as a result of the need to preserve the originality and authenticity of Islamic knowledge and the fear that Islamic literature could be contaminated with alien beliefs, doctrines and information once it goes through the electronic resources (Sulaiman, 2014). However, Islam is not without a sense of innovation and creativity and all knowledge belongs to Islam, wherever and whenever Muslims find it, they should grab the opportunity to learn and utilise it.

عَنْ أَبِي هُرَيْرَةَ، قَالَ قَالَ رَسُولُ اللهِ - صلى الله عليه وسلم - " الْكَلِمَةُ الْحِكْمَةُ ضَالَةُ الْمُؤْمِنِ حَيْثُمَا وَجَدَهَا فَهُوَ أَحَقُّ بِهَا " .

It was narrated from Abu Hurairah that the Messenger of Allah (<sup>#</sup>) said: "*A wise word is the lost property of the believer, so wherever he finds it, he has more right to it.*" (Ahmad)

Good innovation (*bid'a*) has also been highlighted in the famous tradition of the Prophet Muhammad (*s.a.w*).

Jarir reported: The Prophet, peace and blessings be upon him, said, "Whoever institutes a good practice in Islam will have its reward and the reward of whoever acts upon it without diminishing their rewards in the slightest...". (Sahih Muslim 1017)

The primary source of knowledge and guidance in Islam is the Qur'an. Tayan and Alginahi (2014) argue that modern ICTs such as the internet, ipods, mp3 players, compact discks, simple web-sites and software applications can be used to teach the Qur'an and Islamic education, but however acknowledge the innacessibility of such technologies in rural parts of the world due to poor internet, ICT illiteracy, poverty levels, hence suggesting simpler, user-friendly and cheaper ICT platforms such as simple electronic modules. Hosseini et al. (2014) hold the view that internet and electronic communication resources have dimistified the bounderies of language, boarders and institutional barriers in a way that people can access Islamic content in their respective languages and interact with scholars as well as other learners/students on the world wide web enhancing the instruction of Islamic education.

# Challenges Faced in Using ICTs in the Teaching-Learning Process of Islamic Education

In Saudi Arabia, it was discovered that major challenge of falure to intergrate ICT use in the curriculum and instruction was policy barriers, funding and mindset (Al-Alwani, 2005). In some Afrcan countries such as Nigeria, the callenge may not be necessarily about the policy but implementation and resistance to change (Ogbomo, 2011). In remote regions of Asia, it was discovered that the major problems of using ICTs in the process of teacing and learning were associated with insufficient supply of electricity, weak computer specifications in terms of device processor strenghth and memory capacity, limited internet and ICT infrastructure (Siddiquah & Salim, 2017). A study by Habibu et al. (2012) revealed that a significant percentage of teachers in Uganda lacked sufficient skills on how to use ICTs, resistance to change and technophobia limited the usage of ICTs in the teaching-learning process. Some learners may have the basic knowledge on browsing the internet, opening documents and playing computer based games as well as using social media apps but may not know the technical skills reqiured for effective teaching and learning to take place such as using digital library, educative digital forums and blogs (Siddiquah & Salim, 2017). Morover, the basic skills and software required for efficient and effective teaching and learning are complicated and take time to learn (Bakaul, 2018). Some softwares and mobile applications may require time not only to learn but to implement and reflect on, and the pressure on teachers is usually too much which tends to affect concetration (Hilkemeijer, 2021).

Before the Covid 19 global lockdowns, some universities already had online programmes. During the times of the first wave of the pandemic in 2020, there was demand for continuity of studies especially at university and other tertiary levels. Online Distance E-learning was the option. although the programme faced a number of challenges including, shortage procrastination skills. and insufficient electronic materials of (Hettiarachchi, et al., 2021). Kenyatta University had been using the programme for about 15 years before 2020, but due to the influx in the demand caused by the global lockdown, the system went down and even both lecturers and learners were not ready for the system due to instructional, administrative and technical limitations (Njihia, et al, 2020). Difficulties in access and use of ICTs, delayed feedback on students' assignments and examinations, insufficient study material and time to study also sometimes hinders effective teaching and learning (Musingafi, et al., 2015). Other issues related to ICT use include network problems, limited technical support, insufficient training, time shortage and a high percentage of ICT illiteracy among both teachers and learners (Ghavifekr, et al).

#### Solutions to the Above Challenges

Administrators should equip both learners and instructors with adequate ICT skills to use Open Distance E-learning (ODeL) and other electronic leaning platforms to enhance the effectiveness of learning and teaching (Musingafi, et al., 2015). This will not only help the instruction of Islamic education but also other courses. Revision and consideration of integration of ICT policies in the curriculum such that it is given priority and adapted as a mode of instruction (Ghavifekr, et al., 2016). Involve the teachers in the decision-making processes, programme building, curriculum reviews and policies (Johnson, et al., 2016). Installation of ICT gadgets and devices with minimum operational specifications and updated software. If the integration of ICT in the teaching-learning process is to be successful, then the attitude of the teachers and learners has to change (Bakaul, 2018). Some of the basic skills for any university lecturer to have include but are not limited to; using MS word, excel, power point, email, uploading and downloading documents on the internet, file formats, statistical analysis, keyboard and mouse use and multimedia instructional design (Pavan, 2015).

## **Conclusion and Recommendations**

The twenty first century challenges require twenty first century solutions, so contemporary learners should be handled with contemporary methods. This is an information age and therefore the relevance of ICTs in pedagogy cannot be underestimated. Developing policies to integrate ICTs in the Islamic education curriculum is long overdue. Equipping the Islamic education lecturers with basic ICT skills to widen the spectrum of the variety in the teaching methodology will broaden the spectrum of choice and expose them to new sources of Islamic information and updated knowledge. Change in attitude and mindset for both lecturers and learners about ICTs can help them shift towards an inclusive approach for integration of all methods in the teaching-learning process.

#### References

- Abulatifeh, R. F. (2011). The effect of using Islamic education related websites on King Fisal students' achievement in methods of teaching Islamic education subject. *Journal of Islamic and Arabic Language*, 87-96.
- Ahmad. (n.d.). Musnad Ahmad.
- Ajani, S. T., Bakar, B. A., & Sidek, H. M. (2013). Appreciation of computer knowledge in the teaching and learning of Islamic studies in Nigeria. *American International Journal of Social Science*, 2(2), 56-66.
- Akhtar, M., & Rawat, K. J. (2015). A historiography of the educational system of the Muslims during the Umayyad's and the Abbasid's Period. *The Dialogue*, 9(4), 356-372.
- Al-Alwani, A. E. S., & University of Kansas. (2005). Barriers to integrating information technology in Saudi Arabia science education. Ann Arbor, MI: UMI.
- Alhirtani, N. A. (2020). The use of modern teaching methods in teaching arabic language at higher education phase from the point view of Arabic language professors: A case of a premier university. *International Education Studies*, *13*(1), 32-41.
- Alsharidah, M. (2018). Creating change in the use of information and communications technology by female Islamic studies teachers in Saudi Arabia. *International Journal of Educational Administration and Policy Studies*, 17-24.
- Alzouebi, K. (2019). The Islamic studies teachers' perception of integrating ICT into the teaching and learning in the UAE public schools: Challenges, opportunities and practices. *International Journal of Technology Diffusion*, 10(2), 69-82.

- Armstrong, K. (1991). *Islamic History*. Retrieved December 2021, from sourcebooks.fordham.edu: https://sourcebooks.fordham.edu/islam/islamsbook.asp
- Ashaaria, M. F., Ismaila, Z., Puteha, A., Samsudina, M. A., Ismaila, M., Kawangita, R., . . . Ramzib, M. I. (2012). An assessment of teaching and learning methodology in Islamic studies. UKM Teaching and Learning Congress 2011 (pp. 618 626). Kuala Lumpur: Procedia.
- Asik, H. (2017). Learning-teaching methods of Prophet Muhammad (P.B.U.H). *The Journal of International Social Research*, 462-466.
- Aziz, A. A., Ibrahim, M. A., Shaker, M. H., & Nor, A. M. (2016). Teaching technique of Islamic studies in higher learning institutions for non-Arabic Speakers: Experience of faculty of Quranic and Sunnah Studies and Tamhidi Centre, Universiti Sains Islam Malaysia. Universal Journal of Educational Research, 755-760.
- Baiza, Y. (2018). Islamic education and development of educational traditions and institutions. *Handbook of Islamic Education*, 77-97.
- Bakaul, M. (2018). Information and communication technology in education: Challenges and solutions for Bangladesh. *Journal of Governance and Innovation*, 4(1), 7-21.
- Engkizar, Muliati, I., Rahman, R., & Alfurqan. (2017). The importance of integrating ICT into Islamic study teaching and learning process. *Khalifa Journal of Islamic Education*, *1*(2), 148-168.
- Faryadi, Q. (2015). An Islamic perspective of teaching philosophy: A personal justification. *Journal of Research and Method in Education*, 5(6), 49-60.
- Ghavifekr, S., Kunjappan, T., Ramasamy, L., & Anthony, A. (2016). Teaching and learning with ICT tools: Issues and challenges from teachers' perceptions. *Malaysian Online Journal of Educational Technology*, 4(2), 38-5.
- Ghavifekr, S., & Rosdy, W. A. (2015). Teaching and learning with technology: Effectiveness of ICT integration in schools. *International Journal of Research in Education and Science*, 1(2), 175-191.
- Habibu, T., Abdullah-Al-Mamun, & Clement, C. (2012, October).
  Difficulties faced by teachers in using ICT in teaching-learning at technical and higher educational institutions of Uganda.
  International Journal of Engineering Research and Technology, 1(7), 1-9.

- Haque, S. (2016). Information and communication technology in Islamic propagation. *International Journal of Information and Communication Technology Research*, 6(8).
- Hashim, R. (2017). *Revitalisation of philosophy and philosophical inquiry in Muslim education: The way forward.* IIUM.
- Hettiarachchi, S., Damayanthi, B., Heenkenda, S., Dissanayake, D., Ranagalage, M., & 1, L. A. (2021). Online distance E-learning was the option, although the programme faced a number of challenges including, shortage of skills, procrastination and insufficient electronic materials. *International Center for Multidisciplinary Studies*, *13*(21), 1-24.
- Hilkemeijer, M. (2021). *Teaching strategies for the classroom overcome technical issues with technology in the classroom*. Retrieved June 2021, from <u>https://www.ictesolutions.com.au/blog/teaching-</u> <u>strategies-for-the-classroom-overcome-technical-issues-with-</u> technology-in-the-classroom/
- Hosseini, S. E., Ramchahi, A. A., & Yusuf, R. J. (2014). The impact of information technology on Islamic Behaviour. *Journal of Multidisciplinary Engineering Science and Technology*, 1(5), 135-141.
- Irgashevich, D. A. (2020, May). Methods of using cloud technologies in Islamic education institutions. *International Journal of Innovations in Engineering Research and Technology* [IJIERT], 7(5), 89-98.
- Ishomuddin, & Mokhtar, S. B. (2017). Teaching-learning model of Islamic Education at madrasah based on mosque in Singapore. *International Journal of Asian Social Science*, 7(3), 218-225.
- Johnson, A. M., Jacovina, M. E., Russell, D. G., & Soto, C. M. (2016). Challenges and solutions when using technologies in the classroom. Arizona, Arizona State.
- Karima, H. (2017, May 27). Education in Islamic history. Retrieved 2021, from https://www.egypttoday.com/Article/4/5835/Education-in-Islamic-history
- Khan, I. A. (2012). *Authentication of hadith redefining the criteria*. London: IIIT.
- Lubis, M. A., Yunus, M. M., Diao, M., Muhamad, T. A., Mustapha, R., & Ishak, R. M. (2011). The perception and method in teaching and learning Islamic Education. *International Journal of Education and Information Technologies*, 5(1), 69-78.
- Lubis, M., Yunus, Lampoh, A., & Ishak, N. (2010). The use of ICT in teaching Islamic subjects in Brunei Darussalam.

- Miranda, G. L. (2007). The limits and possibilities of ICT in education. *Educational Science Journal*, 39-48.
- Montoya, S. (2021). *The Importance of Monitoring and Improving ICT Use in Education Post-Confinement*. Retrieved 2021 June, from http://uis.unesco.org/: http://uis.unesco.org/en/blog/importancemonitoring-and-improving-ict-use-education-post-confinement
- Musingafi, M. C., Mapuranga, B., Chiwanza, K., & Zebron, S. (2015). Challenges for open and distance learning (ODL) Students: Experiences from students of the Zimbabwe Open University. *Journal of Education and Practice*, 59-67.
- Mustaffa, A., & Rashid, A. A. (2018). Teaching methodologies in Islamic education in 21st Century: Challenges and perspective. 6th International Conference in Islamic Education: Rabbani Education 2018 (pp. 609-614). Kalantan: IIUM.
- Nawi, M. A., Jamsari, E. A., Hamzah, M. I., Sulaiman, A., & Umar, A. (2012). The impact of globalization on current Islamic education. *Australian Journal of Basic and Applied Sciences*, 74-78.
- Njihia, M., Mwaniki, E., Ireri, A., & Chege, F. (2020). Obstacles to successful uptake of open distance and E-Learning (ODEL) programmes: A case of Kenyatta University, Kenya. *African Multidisciplinary Journal of Research*, 12-22.
- Noh, M. A., & Kasim, A. Y. (2012). Teaching of Islamic doctrine and beliefs in school subject content knowledge and pedagogical considerations. *International Journal of Humanities and Social Science*, 2(11), 258-264.
- Ogbomo, E. F. (2011). Issues and challenges in the use of information communication technology (ICTs) in education. *Journal of Information and Knowledge Management*, 2(1), 1-19.
- Othman, N., & Mohamad, K. A. (2014). Integrated system in the Malaysian education paradigm: A catalyst for a holistic personality development. *International Education Studies*, 7(5), 8-14.
- Pavan. (2015). ICTs in teacher education: Challenges and remedies. International Journal of Research Studies in Computer Science and Engineering, 2(3), 49-52.
- Sartika, E., Suparjo, Hakim, I. N., & Supardan, D. (2018). Building students' Islamic characters through information, communication and technology literacy. *Academic Journal of Islamic Studies*, *3*(2).
- Siddiquah, A., & Salim, Z. (2017). The ICT facilities, skills, usage, and the problems faced by the students of higher education. *Journal of Mathematics Science and Technology Education*, 4987-4994.

- Sulaiman, K. D. O. (2014). The effects of information and communication technologies (ICT) On the teachings/ learning of Arabic and Islamic studies. *International Journal of Islamic Studies*, 2(1), 1-26.
- Syah, M. N. (2016). Challenges of Islamic education in Muslim world: Historical, political, and socio-cultural perspective. *Qudus International Journal of Islamic Studies*, 4(1), 82-105.
- Tayan, O., & Alginahi, Y. (2014). Information and communication technologies in teaching and spreading of the Holy Quran. The Glorious Qur'an and contemporary technologies (pp. 2-17). King Fahad Glorious Qur'an Printing Complex.
- Zedana, A. M., Yusoffa, M. Y., & Mohameda, R. B. (2015). An innovative teaching method in Islamic studies: The Use of PowerPoint in University of Malaya as case study. 4th World Conference on Educational Technology Researches, WCETR- 2014 (pp. 543 549). Kuala Lumpur: Procedia.