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IDENTIFYING SALIENT ISSUES IN INFORMATION AND COMMUNICATION TECHNOLOGY EDUCATION IN THE MUSLIM WORLD

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Abstract

Information and communication technology (ICT) in education has been widely used in many schools and learning institutions all over the world. However, the use of ICT in the Muslim world to improve the teaching and learning process is still limited. Indonesia as the most populace Muslim community in the world for instance, still does not have sufficient computer or Internet access in most of learning centers. This poses many challenges particularly in education. Young Muslims nowadays are caught between modernity and tradition. ICT can lead a Muslim to an ambiguous modern lifestyle and at the same time prying integrity of their identity. In some ways, Muslim youngsters are adopting technology with the aim to distance themselves from older people and traditional practices. On the other hand, there are some who challenge Western models. How should ICT education develop within an increasingly digital technological world? This article mainly highlights salient issues of ICT education in the Muslim world and the challenges of Muslim identity in the Internet era. It also examines the impact of digital technology on education for Muslim students and synthesizes ICT education from the Islamic point of view. Finally, some recommendations are appraised accordingly.

Keywords*: Information and communication technology (ICT), ICT education, teaching.*

1. INTRODUCTION

Information and communication technology (ICT) has a significant influence in education to enhance students' achievement in learning. In term of time and space, it allows students to learn independently anywhere and anytime with depth of understanding, because it utilizes a concept of interactive simulations and illustrations. Consequently, it also reduces the weight and cost for heavy textbooks. Moreover, it promotes the ability to work collaboratively with others around the world and understanding other cultures through online dialogues. Information technology, or IT for short, refers to "The technology involving the development, maintenance, and use of computer systems, software, and networks for the processing and distribution of data" (Online Merriam-Webster Encyclopedia), or "The study or use of electronic processes for gathering and storing information and making it available using computers" (Online Longman Dictionary of Contemporary English). While, communication according to both dictionaries means, "A process by which information is exchanged between individuals through a common system of symbols, signs, or behavior". Hence, ICT education is incorporating computers and other information technologies into the learning experience.

It is an undeniable fact that ICT has been playing great roles in teaching and learning processes at many educational institutions. The fact that it enhances students' achievement is still arguable. Obviously, the development of ICT today is neglecting some aspects of life, such as norms and sociocultural issues. It becomes an issue when these aspects have not received enough attention [14]. Islam in contrast, emphasizes on a broader context of education based

on universal values and character-building around the learner. This context should be implemented not only at schools but also at home and within community.

The major concern in this article is on the issues of ICT education in Muslim world. Young Muslims nowadays are caught between modernity and tradition. ICT can lead a Muslim to an ambiguous modern lifestyle and at the same time prying integrity of their identity. In some ways, Muslim youngsters are adopting technology with the aim to distance themselves from older people and traditional practices. On the other hand, there are some who challenge Western models. How should ICT education develop within an increasingly digital technological world? To address this issue more thoroughly, the writer will present the nature of ICT education in the Muslim world and its challenges in the Internet era. Then the impact of digital technology on education and salient issues in ICT education will be examined. Finally, a synthesis from Islamic point of view concerning ICT education for Muslim students and recommendations will be appraised accordingly.

ICT Education and Muslim Identity in the Internet Era

This is a scenario of todays' children's crisis of identity in the digital era. The writer believes that this issue is a true portrait of the character of modern Muslim children. A teacher walks in a classroom and says, "Students, today I would like to tell you one of the best stories of all time in Islam. Can you guess what it is?" One kid answers, "Dragon Ball!" Another replies, "Star Wars!" Other mention, "Twilight!" None of the answers refer to the great stories of Prophet SAW and companions (Sahabah) or any heroic Islamic examples. This is what we call a crisis of identity. Is it because the influence of Internet and technology? Or does it because educations ignore values and characters within students' development?

Despite the advancement of ICT education around the world, the Muslim world is still struggling with barriers to incorporate technology in teaching and learning activities. Most of Islamic institutions still have limited experience in implementing ICT. Syarif Hidayatullah State Islamic University (UIN) Jakarta for instance, faced many problems, such as technological, organizational, individual, and cultural factors during the implementation of ICT education [4]. This is something that we should worry about. Because nowadays, we rely on ICT in all aspects of teaching and learning processes, from administration to research services. Competency in integrating ICT will determine the impact on students' learning. Where would Islamic educational institutions stand to cope with these challenges?

Modern education requires high technology. Proulx [12], a technical advisor to online education at Cornell University, stated that in 2013 technology will have five greater impacts on higher education than before, i.e. the online education, the innovation around "flipping the classroom", the hybrid program, the race for a new instructional model, and the decrease of higher education cost. Firstly, only top tier universities will provide online activities such as online education. The growth in online education is particularly strong in the universities that could adapt technology proficiently and efficiently. Secondly, In the classroom setting, we expect to see more innovation. In this digital age, lecturers can better use classroom time and space by pre-recording the materials. The students then can assess the content anytime and anywhere they need.

Thirdly, the hybrid model is a combination of online and face-to-face educational program. This is considered the best educational program in modern era for its flexibility, especially for adult and working professional students. Fourthly, it is fundamental that a classroom setting requires a new model to create peer-to-peer and peer-to-faculty interaction. Fifthly, this is not quite yet, because "simply moving lecture content online will not solve the

cost problem". At least similar or better learning outcomes should be considered first to implement the online program. Can Islamic educational institutions then compete with global universities all over the world?

How Islam looks at this matter? Islam has no contradiction with technologies. In fact, Islam encourages the use of technology and science, especially for the benefit of societal needs [3]. However, the impact of modern technology and science on Islamic civilization has produced phenomenal responds toward the implementation of ICT in education. The concern is technology application might create conflict with cultural practices and religious beliefs. Thus, Islam emphasizes on certain moral limits on the application of science in order to safeguard the Ummah (worldwide Islamic community) from bad influence of technology.

The transformation in information technology is like a knife with two different edges. At one edge, Muslims have embraced technology like the rest of world has. Even we adapt many traditional forms of religions with technology, such as cyber-mosque, virtual pilgrimage, online Muslim community, etc [3]. It opens our mind widely and omits the barrier of learning. At the other edge, some people might argue against the digital technology. For instance, to some Muslims perhaps Qur'anic verses and ringtones are really beneficial and flexible, but to others it might be disrespectful, chat programs perhaps could benefit in connecting people in distance (silaturrahim), but to others it could lead to flirting, etc. Where to stand then? The best choice is to be in the middle (wasathan), i.e. make use the positive sides of ICT and sidestep from negative ones.

The Impact of Digital Technology in Education and Community

ICT has good and bad impacts on education. As mass education and mass communications, it encourages unity in some contexts and fragmentation in others [2]. According to Siddiqui [4], there are some logical assumptions to critically analyze the use of technology:

"Human communication phenomena are never completely value-free … A healthy society presupposes societal consensus on core (universal) values, such as honesty, a measure of autonomy in critical thinking and action, justice, peace, and unity … Unity in core values and diversity in peripheral ones will promote a creative, innovative, and concurrently sound human society. Technology can be effective utilized only if its use is based on the core moral principles … Instructional technologist cannot truly be value-neutral in their professional practice in terms of selecting and sequencing the contents, concepts, or illustrations geared to facilitating learning."

Utilizing ICT in education will lead to greater opportunities of effective and efficient learning experiences. It makes learning easier, richer, and deeper. First, learning becomes easier by using computer. It can serve as a tutor for students who are left behind. The use of computer is not limited within school boundaries, but students can continue their studies at home to advance at their own pace. Second, digital technologies such as iPad, electronic readers, the smart board, etc. make studying richer. It is true because the learning materials can be presented in various ways, visually and orally. All types of learners will learn differently through colors, pictures, fonts, numbers, etc. based on their natures. Third, Internet allows students to have deeper learning. There is a huge wealth of knowledge accessible to students to support their learning. Both teachers and students can quickly access abundance of information through the Internet at schools.

Within social and religious contexts, ICT makes our worships ('ibadah) broader. Al-Qur'an can be accessed through mobile phone in audiovisual versions. Even it can be translated

into many different languages. Similarly, collections of hadith, tafsir, and fatwa (fiqh) can be easily downloaded and retrieved online. Prayer (shalat) can be learned thoroughly through the Salah 3D application. There are also applications to show us the nearest Mosques and halal shops to a user's location. Moreover, we can learn Islamic teaching directly from Muslim scholars at al-Azhar University in Cairo through YouTube or "Islamic Hotline" (Mandaville, 1999).

In special cases, ICT has a greater impact for Muslim women. There are a lot of women's cyber presence and cyber opportunities in which Sassen [13] referred as mediating cultures. Previously, scholars argued whether Muslim women could work outside the house or not. Through the Internet and new technologies, this is not a big issue anymore. Women certainly can do business from home without worrying about problems such as hijab (veil). While doing their business, at the same time women can look after their family at home (www.MuslimahsWorkingAtHome.com).

Although there are many advantages to technology in the classrooms, families, and societies, there have been arguments about the negative impacts. The dependency to technology will make children especially lost their pure attention to learning and socializing. First, it is claimed that computers have done all the works and not the students. This issue is somehow true because the free access to Internet could make students easily copy and paste the material from many links available. Such quickly access is feared to let students ignoring the information and devaluing the knowledge process. In a long-term phase, it leads to online plagiarism and decreases students' basic knowledge and skills. Second, ICT diminishes communication and interaction skills. New technologies are developed for independent uses, thus ignoring interpersonal and cooperation skills within a classroom, family and community settings. Most students waste too much time with computers, not only for studying, but also for gaming and socializing. When we say gaming and socializing through computers, of course they are totally different from the real game and social activities. Could it be effective to implement some restriction for not playing online games? Is it wise to maintain both educational work and other non-educational distraction at the same time?

Based on the above-mentioned pros and cons, there are some arguments that the negative side has more credence than the other. In school setting for instance, positive development outcomes of ICT are most of the times are benefit to those in the middle class who can afford to pay for relevant applications on an ongoing basis [6]. The students who could not afford those applications are unable to access the technology. It then makes learning for those disadvantage students become more difficult. Additionally, ICT makes the whole process of teaching and learning easier. Students can access the whole library at their fingertips. Isn't it somehow problematic and produces laziness? Yet, isn't education supposed to accommodate students with resources needed? We should remember that meaningful learning ought to be a bit demanding and it cannot be obtained through easy ways. More significantly, learning without meaning will devalue students' characters themselves.

Salient Issues in ICT Education

As mentioned earlier in the impact of digital technology on education, the use of ICT, in some ways, enhances teaching and learning process. However, some issues in ICT education need to be addressed properly to improve a better learning experience. Among the salient problems in technology education is insufficient quantities of qualified technology education teachers [15]. Thus, Wicklein [15] recommended undertaking significant efforts in preparing new technology education educators at all levels of educational institutions. To train teachers

to be familiar with ICT application and ensure them to utilize computer technology for further development in learning is then considered an urgent matter [7].

Another yet important issue is teachers do not utilize the ICT applications effectively. In some countries, a lot of budget had been allocated for the use of ICT in teaching and learning. Thus, it is such a big waste to not fully utilize the facilities. Khalid et.al. [5] recommended to ensure that all the hard work and budget spent will not be put to waste, by facilitating the integration efforts such as leadership and commitment. Is it because the teachers are not well trained in using ICT equipment? Or is there any other factors that make learning do not fit using such advanced technologies? If this cycle continues, there might be a possibility that someday ICT education will be absorbed within other disciplines.

In addition, Merrow [9] stated that there are three reasons to worry about technology in schools, i.e., the gap between rich and poor, the resistance of innovation by schools, and the misuse of technology. He said that, "The choice is ours: We can use technology in schools to support students who dig deep and create knowledge, or we can continue with business as usual, an environment that invites kids to use technology's power in ways that ultimately hurt us all."

Since the main problem relies on teachers to effectively utilize the ICT application, hence preparing teachers from the beginning is one of the ways out. Where to begin then? It must be started from pre-service teacher education programs in education institutions. The pre-service teacher education programs play a crucial role in preparing quality teachers who are open to information and communication technology [8]. According to Lim and Pannen [8], there are six strategic dimensions that teacher education institutions need to focus on (1) Vision and philosophy, (2) Program - curriculum, assessment, and practicum, (3) Professional learning of deans, teacher educators and support staff, (4) ICT plan, infrastructure, resources and support, (5) Internal and external communication and partnerships, and (6) Research and evaluation.

Effective ICT Education Model for Muslim Students

Effective student-centered learning environments consist of five essential foundations, i.e., cultural, psychological, pedagogical, technological, and pragmatic [1]. They cannot be separated to fully optimize teaching and learning process. When these foundations are fully understood and applied accordingly in ICT education, it will have a significant improvement on students' learning outcome. In Sulawesi for instance, combination of cultural background and ICT education helps students improve their capability in accelerating learning [9].

Islam views knowledge as one. One body of knowledge (the hard science) cannot be separated from another (the social sciences). It is in one package of humanity science. Thus, it differs from the concept of Western ICT education that neglect the social dimension. Siddiqui [14] drew the differences between Western and Islamic views of humanity:

Table 1. Western and Islamic Views of Humanity

Predominant Western View	Islamic View
Born in Original Sin	Born free and innocent (6:164)
Darwinian evolved animal	Divine spirit infused (32:9; 15:29)
Instinctual nature	Combines determinism (33:38) and free will (18:29)
Devoid of divine guidance and without a human mission	In need of divine guidance, inheritor of it through prophets; human mission as vicegerent of God (2:30; 24:55)
Has no core values	Has core values (30:30) violation of which is sin

	(102:5-7)
Someone has already died for his/her sins	In accountable for his/her sins (99:6-8; 49:13)
Homo economus	Multidimensional success is the goal of life: spiritual, social, economic, and political (4:114)
Materialistic, individualistic, over-relativistic, dog-eat-dog attitude	Concern for others (3:110); sacrificial natures seeks clarity at the belief level (18:88)
Technologically advanced	Far behind in science and technology, hardware and software

From the table, we can see clearly that Western view differentiates religious and humanity values from knowledge; therefore they are advanced in technology. Islamic view, on the other hand, concerns with religious and social values, yet lack in science and technology? Does it mean that the Western view is better than the Islamic view? The writer believes that is not true. Muslim scholars in the past had proved that we could be advanced both in religious and technology matters. The main problem with todays Muslims is they are given limited opportunities to prove themselves. It is a rare case that Muslim scientists could contribute into the process of scientific and technological development. For that reason, their voices are simply not heard both in scientific academies or national policies.

To be able to contribute into ICT development, Muslims should reevaluate the method and the content of knowledge based on Islamic values [14]. First, Al-Qur'an and Sunnah show the guiding principles of communication in Islam are wisdom, good advice, and the general welfare of the community (16:125) in which they are delivered in a pleasant and merciful manner. "Invite to the way of your Lord with wisdom and good instruction, and argue with them in a way that is best. Indeed, your Lord is most knowing of who has strayed from His way, and He is most knowing of who is [rightly] guided" (Q.S. An-Nahl: 125). These three points play a significant role in a learner experience. Imagine if ICT education is taught based on wisdom, good instruction, and the general welfare. Doesn't it encourage students' creativity and innovation? They also imply the combination of practicality for society at large.

Second, the curriculum content for ICT education must be based on "the human mission to ensure the divine causes of truth, justice, equity, and peace" in all cognitive, affective, and psychomotor domains [14]. Teachers or ICT practitioners are then expected to implement the Islamic values flexibly and practically in enhancing students' learning experience. If these values are applied accordingly, there is no more need to worry about the gap between rich and poor students, and the misuse of technology.

2. Conclusion and Recommendations

This article has attempted to address significant issues in ICT education in the Muslim world. The concerns were classified under the following categories: the nature of ICT education in the Muslim world and the challenge of Muslim identity in the Internet era, the impact of digital technology on education and salient issues in ICT education, and effective ICT education model for Muslim students based on Islamic perspective.

Basically, ICT use in the Muslim world is still limited. In one hand, ICT has a good impact in enhancing students' learning. On the other hand, it challenges Muslim identity to adopt the Western values. Another issue of ICT education in Muslim world is lack of competent ICT educators who could guide students accordingly. Hence, preparing teachers in pre-service

teacher education institutions is the best way to familiarize with ICT usage. Finally, the method and content of ICT education for Muslim students should be based on Islamic values.

The above-mentioned issues and problems identified in this article are hopefully can serve as foundational basis for future developmental efforts in ICT education for Muslim students. Correspondingly, the method and curriculum content of ICT education should be given priority in future research. Greater emphasis also should be placed on the development of the knowledge based on the Islamic values.

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