Media Information Communication and Technology (ICT) Development Strategy in Education Learning

Achmad Yusuf¹, Munif¹, Mochamad Hasyim¹, Asrul Anan¹, Muhammad Nur Hadi¹

¹University of Yudharta Pasuruan, Indonesia
*achysf@yudharta.ac.id, munif@yudharta.ac.id, hasyim@yudharta.ac.id, asrulanan@yudharta.ac.id, nurhadi@yudharta.ac.id,

Abstract. In the era of globalization in the learning process educators are more likely to use media based on information and communication technology (ICT). ICT-based learning media is a tool used in pai learning process by utilizing information technology. This is because the development of ICT has implications for the development of the education system, from the basic level to the higher education level. Some strategies that can be done in the learning process through ICT Development in multicultural-based PAI learning included; Active learning, Collaborative learning, Creative Learning, Integrative learning, and Evaluative learning. Media development with ICT has a purpose; first, the availability of flexibility for students in choosing study time, as well as regardless of stress due to the influence of geographical location. Second, through the ICT facilities available, students are expected to be able to explore and also discover new ideas or innovations from experts around the world. And third, the existence of ICT in the education system allows some enforcement activities, such as the delivery of lectures to students, monitoring the progress of students, and assessments can be done on time.

1. Introduction

In the current era, media in learning is one of the important components in realizing the improvement of the quality of education, because in education there are components that include; objectives, methods, materials, media, teacher roles, students' positions, and environmental influences within them.[1] Learning is the process of how students learn through media and two-way interactions between students and educators. In the context of the present, media has a significant role in helping to convey messages and information to students, this is because learning is essentially the process of sending messages and information from educators to students that can be realized through interactive activities and dialogue in the delivery and exchange of messages or information by every educator and learner.

Conventional learning systems in schools today are believed to be less effective, concepts of brain ability, intelligence, and creativity have evolved rapidly along with advances in technology and communication. These developments have an effect on strengthening those who want to correct the weaknesses and disadvantages that exist in conventional learning systems. In conventional systems, the transfer of knowledge process is carried out using the whiteboard as the main means, the room is managed in a static format and the teacher becomes the only informant expected in the field (teacher centered).[2]
In the current era of Pandemic Covid-19 ICT (Information and communication Technology) becomes a fundamental need in determining the quality and effectiveness of learning processes in addition educators are also more likely to use media based on information and communication technology (ICT or Information Communication and Technology). The development of ICT has implications for the development of the education system, from the basic level to the higher education level. Some strategies have been carried out in the learning process, this aims to provide creativity in learning and is expected to produce meaningful learning and improve the quality of education. Dryden and Vos's research (2000) concluded that in an education system that proved successful, self-image turned out to be more important than subject matter. Thus, the concept of future education is directed to how to generate motivation for students to learn pleasantly (how students learn). One of the approaches and methods that can be used to improve that aspect is by utilizing (ICT) in the learning process.[3] Suryadi (2007) stated that the need for people to utilize technology in learning is part of learning reform. In addition to helping to create learning conditions conducive to students, the important role of information and communication technology in the learning process is to provide a set of media and tools to facilitate and accelerate students' work, and of course can provide advance skills, in addition, between students and learning resources can occur anytime and anywhere not limited by space and time, so that the process of delivery and presentation of learning materials and ideas can become more interesting and enjoyable.[4]

Islamic Religious Education (PAI) as a conscious effort, namely a mentoring, teaching, and/or training activity conducted planned and aware of the objectives to be achieved (Muhaimin, 2008:76).[5] In the context of a compound Indonesian society, religion contributes as unifying (integrative) and also on the other side as a disintegrative. Therefore, the multicultural PAI learning process in schools must demonstrate its contribution through learning that is able to provide new innovations. In this context, the presence and progress of ICT in this era of globalization communication has provided opportunities and expansion of interaction between teachers and students, interaction is not only limited in classrooms, but can be done in various spaces and times to learn.

2. Methodology

This research uses a research and development approach. Workflows/stages in the multicultural-based PAI learning development process can be described as follows; R & D measures with reference to Borg & Gall (1983) include 10 steps, namely: (1) conducting research and information collection, (2) planning, (3) initial development of the product, (4) conducting initial field tests, (5) conducting major product revisions, (6) conducting field tests for the main product, (7) conducting operational product revisions; (8) conduct field tests on products, (9) revise the final product, (10) dissemination and implementation.[6]

3. Result and Discussion

ICT Concept in PAI Learning Media Development

Information and Communication Technology or more commonly known as ICT is all forms of technology applied to process and transmit information in electronic form with hardware (hardware) is Computer / Laptop and its software (software) in the form of worksheets Dodi Nandika, Gatot Priowijanto and Soekartawi, explaining that ICT is a term used to describe interesting and innovative ways to provide lifelong learning with global access to information, learning and support. In this case ICT includes communication devices or applications, including: radio, television, mobile phones, computer and network hardware and software, satellite systems and so on, as well as various services and applications associated with them, such as video conferences and remote learning. It is also pointed out by Anderson, stating that ICT includes many technologies that allow us to receive information and communicate or exchange information with others, with devices and functions for capturing, interpreting, storing, and transmitting information. In addition, ICT is a reform learning approach, some prominent thinking about learning reform can be seen in Table 1. Means (1993) states that the catalyst for learning transformation is the concentration of various aspects of learning around
challenging authentic tasks. Authentic tasks replace an individual subject-oriented learning approach or a discrete proficiency, which has no obvious connection to the real world in which children are engaged outside of school.

Table 1. Comparison of Conventional Approaches and Learning Reform Approaches[4]

| Conventional Learning Approach                  | Learning Reform Approach                                      |
|------------------------------------------------|--------------------------------------------------------------|
| Under strict control teachers                  | Students actively conduct exploration                        |
| Instructional teaching in the direction         | Interactive models                                           |
| Short instruction on a single subject          | Wide range of authentic material and multidisciplinary approach |
| Individual activities                          | Collaborative activities                                     |
| Teacher as the source of knowledge             | the Teacher as a learning facilitator                        |
| Grouping ability                               | Grouping by heterogeneous, or changing as needed             |
| Material mastery evaluation                    | Performance-based evaluation and discrete proficiency        |

**Multicultural Islamic Religious Education**

Islamic Religious Education (PAI) is defined as a conscious effort to prepare students in this update, understand, live, and practice the teachings of Islam through guidance, teaching, and/or training activities by taking into account the demands to respect other religions in their relationship with interfaith harmony in society to realize national unity.[5] Achmadi said: "Islamic education is an effort that is more devoted to developing the diversity of subjects, in appreciating and living the Religion of Islam in order to be a human being with a Muslim personality and practice the lines of Islamic teachings.[7]

Multicultural education provides a glimmer of hope in overcoming the various so far-term upheavals that occur today given that multicultural education is an education that always upholds values, beliefs, heterogeneity, plurality and diversity, regardless of aspects of society.[8] This is because education has an important role in shaping people's lives, as Nuryatno Pendidikan has an important role in shaping public life, and is also believed to be able to play a significant role in shaping politics and culture, which in this case is boarding school. Thus education as a medium to prepare and shape social life, so that it will be the basis of educational institutions steeped in the values of idealism.[9]

In relation to Multicultural Islamic Religious Education. Islam is a universal religion that upholds the values of humanity, equality of rights and recognizes the diversity of cultural backgrounds and dignity. Multicultural islam is a rule of God (sunnatullah) that will not change, nor is it possible to be fought or denied. Everyone will face up to it wherever and in any case.[10] The realization of multicultural culture in society one factor is the inclusive character. The roots of inclusive character values as according to Hasan (1) at-Taaruf, (2) at-Tawassuth, (3) at-Tasaamuh, (4) at-Taawun, and (5) at-Tawazun. Hasan further states the value of the character that is the gateway to the process of interaction between individuals and or groups, into the difference in skin color, culture, religion, or language is at-Taaruf.[11]

**ICT Usage Strategy in Multicultural-Based PAI Learning**

The existence of ICT in the world of education is considered an absolute necessity. Even the world education agency, UNESCO, in some of its publications stated the importance of the utilization of ICT in the field of education. The combined team of the Ministry of Communication and Information, the Ministry of National Education (Ministry of Education and Culture) and the Ministry of Religion (Ministry of Religion) identified several strategic roles of Information and Communication Technology in the Primary and Secondary Education System. The role is 1) as a repository of science, 2) as a learning aid, 3) as an educational facility, 4) as a competency standard, 5) as supporting
education administration, 6) as a tool for school management/ madrasah, and 7) as educational infrastructure. Since 2004 Indonesia has signed a commitment at the World Summit on Information Society (WSIS) which one of its grains states that in 2015 at least 50% of the population should be able to utilize information technology to improve quality of life.[12]

The importance of ICT in the world of education and the need for a common formula about its use in the learning process in order to actually give a role in the achievement of educational goals is the duty of all educational stakeholders, especially policymakers. In the study of Islamic Religious Education (PAI) utilization of supporting capacity ICTs should be able to develop "intelligence of thinking, doing good in faith and taqwa. This is in line with the purpose of Islamic education as Yusuf thinks that Islamic education is an education that is done in various ways in order to make students of quality. Quality in the sense that actions and behaviors in daily activities always provide benefits both for yourself and for the surrounding environment. But it is not far from the desire to achieve the good of this world and the Hereafter. Therefore there is a spirit of Islamic teachings in each of his behaviors.[13] Islamic education seeks to nurture a human being who is not only ready to live but also ready to use. It has a quality that is able to be used in all environmental conditions, with not only the sorting between islamic and non-Islamic, between the world and the hereafter. Such humans are always desirable in any group, because they have the power of creativity, as Islam teaches about creativity towards its beings.[14]

Advantages or advantages of utilizing ICT in order to improve the quality of education, according to tinuoye and adogbeji savings, among others: first, the availability of flexibility for students in choosing study time, and regardless of stress due to the influence of geographical location. Second, through the ICT facilities available, students are expected to be able to explore and also discover new ideas or innovations from experts around the world. And third, the existence of ICT in the education system allows some enforcement activities, such as the delivery of lectures to students, monitoring the progress of students, and assessments can be done on time. Reeves (1998) also presented the results of a 10-year investigation by the Apple Classrooms of Tomorrow (ACOT) project, and concluded that pedagogical innovations and positive learning outcomes could be obtained by applying technology (ICT) in schools. In integrating technology into the learning process, experts research and develop various models as suryadi according to the model is as follows.

| ICT Integration Model | Function |
|-----------------------|----------|
| ICT Technology)       | 1. create pleasant and exciting learning conditions (emotional effects);  
                        | 2. Equip students with the ability to use high technology. It answers the challenge of its relevance to the world outside of school.  
                        | 3. Technology as learning tools with several application programs and utilities, in addition to being able to facilitate and also accelerate the work, as well as multiply variations, analysis techniques, and interpretations. |
| Positive Emotions      | 1. development of the ability to create, manipulate, and learn  
                        | 2. Practice with problem-solving tasks  
                        | 3. Build a constructivist learning environment |

Figure 1. Technology Integration Model in Learning
In the context of the use of ICT in multicultural-based PAI learning there are several approaches in learning that can be taken, as according to Nwosu and Ugboro (2012) namely:

| No | Learning Approach/Strategy | Description |
|----|----------------------------|-------------|
| 1  | Active learning[15]        | ICT-based learning can be used as a tool to test, calculate, and analyze information. Thus students can use it independently in the framework of research, analysis, and construction of new information. Therefore, students can learn what they have done, at any time, learn more deeply about real-life problems, and also make the learning process much more relevant for students. In this case, ICT makes the learning process a kind of "just-in-time" learning, where students can choose what to learn, and when they should learn it |
| 2  | Collaborative learning[16] | learning through ICT can support interaction and cooperation between students, teachers, and experts, regardless of where they come from. In addition, and regardless of the real-world interaction model, ICT-powered learning provides students with the opportunity to work with people coming from different cultures, helping to improve their collective abilities, communicative skills, and global awareness |
| 3  | Creative Learning[17]      | ICT-based learning can provide new understanding for students through a variety of activities that can be applied in learning classes. Through the utilization of ICT there are various creative solutions, which if categorized can be incorporated into this type of inquiry learning. For example, in reading skills learning, e-books are available that can be used for learning activities. In addition, students can access all kinds of text from the easiest start, to the highest level, through their computers, laptops, and tablets |
| 4  | Integrative learning       | learning strengthened by the utilization of ICT can be used to promote a thematic and integrative approach into each teaching learning activity. This approach can be used to remove the gap between different disciplines, as well as between theories and practices that characterize traditional class approaches |
| 5  | Evaluative learning        | Learning supported by ICT can be said to be student-directed and diagnostic learning. This learning model recognizes the differences in learning and articulation of knowledge that are very diverse, thus providing opportunities for students to explore and discover, rather than just hearing and remembering |

4. Conclusion

Based on the above study, that the strategy of developing multicultural-based PAI Learning media can be done in the learning process that focuses on the objectives of Islamic education namely intelligence of thinking, doing good in faith and taqwa, while the approach can be used; Active learning, Collaborative learning, Creative Learning, Integrative learning, and Evaluative learning. Media development with ICT has a purpose; first, the availability of flexibility for students in choosing study time, as well as regardless of stress due to the influence of geographical location. Second, through the ICT facilities available, students are expected to be able to explore and also discover new ideas or innovations from experts around the world. And third, the existence of ICT in the education system allows some enforcement activities, such as the delivery of lectures to students, monitoring the progress of students, and assessments can be done on time.

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