

INNOVATION OF LEARNING MEDIA THROUGH INFORMATION AND COMMUNICATION TECHNOLOGY IN THE REVOLUTION ERA 4.0

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Abstract

The existence of globalization has made a shift in the times, starting from the era of writing, printing, to bringing about this period, namely the Revolution Era 4.0. This has led to Information and Communication Technology is growing rapidly at this time, and humans are required to keep up with the times, including in the field of education. The method used in this research is a literature study, which is carried out in stages in the form of searching, finding relevant data, and expressing ideas from the findings. Based on the research results, teachers have challenges to master the skills of using technology. In today's learning, innovation is needed in choosing learning media. Teachers must be creative and innovative in choosing learning media. Learning media that can be used in this era are computers, youtube, and and other media such as WhatsApp, telegram, and e-mail. It aims to make learning efficient, effective and interesting.

Keywords: Learning Media, Information and Communication Technology, Revolution Era 4.0.

INTRODUCTION

Technological developments in the 4.0 revolution era have an impact on changes in the education sector. Education in the 4.0 era is marked by the use of technology in the learning and teaching process, which is referred to as digital (Subarkah, A. F., St. Y. Slamet, & Indriayu, M, 2020). The education system is being impacted by the era of revolution 4.0, which includes changes to the learning curriculum, educational goals, school administration, and learning methodologies. Information and Communication Technology is experiencing rapid development in changing times and plays an important role in the influence of education in Indonesia today. Technology improves the quality of education because access to knowledge is very easy, efficient, effective and affordable. The technology aims to help humans in activities in everyday life. The era of revolution 4.0 has an impact on the learning process such as changes in methods and media used in learning. Therefore, teachers are required to master the use of technology. The technology aims to help humans in activities in everyday life. The era of revolution 4.0 has an impact on the learning process such as changes in methods and media used in learning. Therefore, teachers play an important role in mastering technology in learning.

The teacher is the main role that has the key to success in the world of education. According to Aoun (2018), a country's performance in dealing with the 4.0 industrial revolution is also determined by the quality of teachers. Teachers must have skills in using technology. In delivering material, a teacher needs learning media so that material and information can be delivered properly. According to Arsyad (2017: 10) learning media is a method used by teachers

in providing teaching to students to deliver material that can make students more interested in learning.

In the world of education, the use of ICT is to choose electronic learning media in the classroom. Learning media has a very important part in the learning process. Learning media will make the learning process more effective (M.Rohman, F. Baskoro, and L. Endahcahyaningrum, 2020). Technology can also maximize the use of innovative and fun learning media to give to students. Electronic learning can make students actively involved in the learning process. It has the potential to improve teaching and learning quality, raise awareness of the need for higher education institutions to maintain a competitive edge, and increase student access to education and training in this globalizing marketplace (Islam, Beer and Slack, 2015). Technologies that can be used in selecting innovative learning media include computers, LCD projectors, the Internet, Learning CDs, Emails, Power Point presentations, or even gadgets commonly used by students. Effective integration of technology-based tools (e.g., computers and mobile devices) for the learning process is a supported medium in digital education (Buzzard, Crittenden, Crittenden, & McCarty, 2011). In its use, there is great hope that these learning resources will arouse students' thoughts, feelings, interests, and attention in the learning process. Can be used by teachers to teach students in class so that learning is more interesting and the results feel meaningful.

Several previous studies have shown that many learning media have developed in the digital era, including the following: (Akrim, 2018; Gadre, M, & Deoskar, A, 2020; Hikmah, D, 2019; Sagita, M, & Khairunnisa, 2020). Teachers play a critical role in selecting appropriate learning material to ensure that the teaching and learning process meets the learning objectives. Teachers must have creative learning media innovations that can be used in delivering learning materials in the classroom. Selection of the right media can give satisfactory results. Based on the description above can be formulated in the following questions: what are the challenges for teachers in the revolution era 4.0? And what learning media can be used in the revolution era 4.0?

METHOD

The method used in this research is a literature study where research activities are carried out using how to collect information and data using various materials found in the library, such as book, references, prior research results, articles, notes, and numerous periodicals connected to the topic to be solved (Sari & Asmendri 2020). This study examines literature related to learning media innovation through information and communication technology in the revolution era 4.0. The focus of this research is the challenge of teachers in the revolution era 4.0 and choosing learning media through technology.

RESULTS AND DISCUSSION

Results

Teacher Challenges in the Revolution Era 4.0

Currently, technological developments have entered the 4.0 era or interactive communication, the first of which was the writing era 1.0, followed by the printing era 2.0, then the telecommunications era 3.0. These developments are very rapid and have led to several significant changes in the life sector, as well as in the field of education where learning is dominant. In this 4.0 revolution era, all activities, especially learning, cannot be separated from

the use of technology. The challenge of teachers in this area is very heavy because in addition to having to master the learning material, teachers also have to master the understanding of technology. Teachers must play a creative and innovative role in the process of teaching and learning activities. Teachers must also guide their students when learning in class using technology, so that they do not abuse technology. This is in line with the Diplan (2019) that teachers must educate students in accordance with the times, as long as this does not interfere with established norms. Teachers face obstacles such as digital literacy, lifelong learning, and providing fun learning (delightful and purposeful) (Malik& Asnur, 2019).

As a result, it may be deduced that how teachers place themselves in the learning and teaching process has an impact on learning. Developing technology can also affect students' attitudes and behavior such as lazy learning. Internet addiction and online games will make students lose focus on learning and can reduce their academic achievement (Lase, 2019). Therefore, the teacher plays an important role in helping students to supervise and cultivate student character. Teachers must be able to take advantage of innovations from these technologies. Teachers have a fundamental role to design effective, conducive, and creative learning activities through the use of innovative digital media (Karlı, 2013). Teachers must be ready and able to cope with various changes in teaching and learning activities such as learning methods and media.

Choosing Learning Media with Information and Communication Technology in the Revolution Era 4.0

The world of education can feel the rapid development of technology in this era. Initially, in learning only involved teachers and students with improvised methods and media, such as teachers who relied on themselves to deliver material and the method used was lecturing, then the teacher could convey in writing using blackboard and chalk media, over time finally replaced with whiteboards and markers. When globalization began to develop and entered Indonesia, schools began to gradually use these technologies such as computers, cell phones, in focus, and so on. This can be said to be an innovation in choosing learning media at this time. OECD (2015) revealed that innovation as the introduction of an improved or new process, products, services, new ways of managing activities, or new marketing approach. Innovation is an idea or idea implemented in the curriculum in learning that is considered new to solve educational problems. In addition, teaching is not only conveying learning materials, but also providing assistance to students through learning media. This means that in conveying learning to students, it must require innovation from the teacher.

The use of technology as a learning medium in today's digital era is one way to choose innovative learning media. The innovative media are those that have been mentioned above, great hope of using this media can stimulate the thoughts, feelings, and interests of students in learning. Of course, this is an effort made by the teacher so that students are not bored and can quickly capture the material presented. Students can be said to be interested in learning when they are focused and can concentrate when the teacher explains. With the help of innovative learning media such as computers or gadgets, teachers must be able to familiarize themselves with technology that is increasingly developing and technologically literate in front of students. Learning with computer-generated imagery, such as multimedia, has become a key focus (Rias & Zaman, 2013). E-learning, which is a type of learning that uses electronic technology, is one example of multimedia (radio, television, film, computers, and the internet) (Aparicio, Bacao, & Oliveira, 2016). Gibson et al.,(2014) revealed that students who have acces to computer are more engaged and anthusiastic about theirs studies. With this statement, it has been proven with the help of computer networks make it easier for teachers and students in carrying out the learning process. In addition, students are very easy to access the material in learning, which previously only relied on textbooks and worksheets, can now access the material in just seconds.

In the past, students did not have textbooks, students had to summarize them in books so that the material presented was digested properly, now with its development students can download materials online, all of which can be accessed without exception. Computers provide internet networks that can make it easier for teachers and students to communicate through media platforms such as WhatsApp, Telegram, email, and others. Computers have the functions needed in teaching and learning activities such as audio. Microsoft Word, Microsoft Excel, Power Point, and CD. In addition to using computers, teachers can use YouTube learning media. With YouTube, students can find various educational videos and information related to learning. Students will also be more interested if learning through YouTube. YouTube can help students to learn by lessening their cognitive load (Clark and Mayer, 2002). In terms of communication, the digital world in the 4.0 revolution era has many very diverse applications, especially in the world of education. Teachers will find it easier to choose appropriate learning media.

Discussion

There are two things described in this study, the first is the challenge of teachers in the 4.0 revolution era and the second is the selection of learning media through ICT. Based on the results of the study, technological developments in the 4.0 revolution era provided so many challenges for teachers in carrying out learning and teaching activities. Technology has spread in all directions. Because teachers are required to have skills in using technology. If teachers have skills in using technology, then they will easily do anything related to learning. Teachers can create an effective learning atmosphere. Besides teachers, teachers must guide students in using technology. This is done so that students can use technology, according to their needs as students. In delivering the material, the teacher can use learning media. The use of learning media aims to create an interactive learning atmosphere. Teachers can use media such as computers and youtube that have facilities. With the internet network on the computer, teachers and students can run various media such as audio, power point, Microsoft word, Microsoft excel and others. For communication, teachers can use the media platform WhatsApp, telegram, and email. In the teaching and learning process. Teachers must be able to choose innovative and creative learning media, according to their needs so that students are enthusiastic and interested in learning.

CONCLUSION

In this modernization era which is known as the Revolutionary Era 4.0, there is very rapid progress in the field of information and communication technology. In every sector of life, there must be some developments, including in the field of education. This study reveals the challenges of teachers in the 4.0 revolution era and the selection of learning media through communication and information technology. Learning today will be more meaningful and leave language that is "monotonous" or boring if it is interspersed with the selection of new innovations in learning media by utilizing technology such as the use of computers, youtube and other media platforms such as WhatsApp, telegram, and e-mail.

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