



THE EFFECT OF DIGITALIZATION EDUCATION USING ELECTRONIC LEARNING MEDIA ON STUDENT LEARNING PATTERNS

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ABSTRACT

Science and Technology (IPTEK) is developing very rapidly in various fields, one of which is in the world of education which is known as the digitalization of education. One of the characteristics of digitalization of education is the use of electronic learning media in learning. Examples of electronic learning media that have been widely developed among students include online simulations using Phet Colorado, digital pocket books, virtual classes using video conference, and others. The digitalization of education has an impact on student learning patterns. Therefore, it is necessary to conduct research to determine use of electronic learning media as a form of digitalization of education on student learning patterns. The research uses a descriptive qualitative method using literature study. Digitalization of education provides many benefits to students' learning patterns. Based on the results and discussion, it was found that digitalization of education has an effect on student learning patterns, namely that learning is more interactive and efficient because it can be done anywhere and at any time. However, it should be noted that in the digital era there needs to be a role for families, teachers and the community to supervise and direct students in using technology.

Keywords: digitalization education, electronic learning media, learning patterns

1. INTRODUCTION

Technological advances have had a tremendous impact on human life. Where human life becomes easier and helped by the presence of technology (Arta, 2021). Science and Technology (IPTEK) is developing very rapidly in various fields, one of which is in the world of education. One of the technological developments in the world of education is being utilized in developing electronic-based learning media. Learning media contains information that can be in the form of knowledge or be a means for students to carry out learning activities (reading, observing, trying, working on questions, answering questions, etc.). Learning media is not just a physical object, but anything that already contains learning material, so that it allows someone to use it for learning in order to gain knowledge, skills or change attitudes (Efendi, 2018).

In the world of education, the presence of a teacher in the classroom with a laptop will provide a breath of fresh air for students because generally there will be interesting learning presented by the teacher, such as powerpoint and video media. The urgency is that teachers must have the ability to use tools and behavioral skills in utilizing advanced technology (Solihin, 2024). Currently learning can be done online without having to meet in person. Online learning makes us aware of the potential of the internet in the digital era. Without being limited by space and time, learning activities can be carried out anywhere and anytime (Wildan et al., 2022). This is in line with the opinion of Afif (2019) who states that digitalization, especially the internet and electronic media in the field of education, can provide significant progress, especially in learning resources, education centers and mass media. Various sophisticated devices are used for smooth learning. Communication tools play an important role in this learning. Therefore, both teachers and students are required to have modern communication tools that can facilitate learning. Other research conducted by Utami (2007) states that learning media that has been developed in the form of animation is an option to support a learning process that is fun and interesting for students and also strengthens motivation, and also to instill understanding in students about the material being taught. Apart from helping students to facilitate understanding of teaching material, it also provides meaningful experiences for students so that it can arouse students' interest in the teaching and learning process.

Curriculum development in Indonesia is currently being enlivened by the Ministry of Education and Culture of the Republic of Indonesia which is promoting the concept of changing the curriculum to an independent learning curriculum. One of the work programs in the independent learning curriculum is a major concern in the



digitalization of education (Naufal et al., 2021). School digitalization is an intervention that encourages the provision of fast, automatic and open services so that they can be in line with current technological and information developments (Solihin, 2024). Nowadays, technological developments have a huge influence on innovation in the world of education. Equal distribution of education in outermost, disadvantaged and remote areas is helped by the digitalization of education (Cristiana, 2021). Conventional learning patterns have begun to be abandoned and shifted to using information and communication technology-based learning, this can be done by learning using e-learning (Solihin, 2024).

2. METHODS

This research uses a descriptive qualitative research method, namely a research method used to examine the condition of a natural object by studying something to the fullest with the aim of describing, explaining and answering in detail the problems being studied. The descriptive qualitative research method is carried out by collecting relevant previous research data and then connecting it to the problem being studied.

3. RESULTS & DISCUSSION

One of the problems faced by Indonesia in the world of education is that the quality of education is far from other countries, so it can be said that the quality of Indonesian education is low, seen from the product of the education itself to the educational process currently underway. Changing curricula with time gaps that tend to be short so that the evaluations obtained tend to be minimal, making Indonesia's education pattern immature. As time goes by, Indonesia is faced with developing technology with the use of digitalization (Efendi, 2018). In the educational context, digitalization can be interpreted as the ability to change various aspects and educational processes into various digital variants. The digitization process has an impact on various processes in education, especially changes in organizations and transformative leadership (Bejinaru, 2019). It is believed that digitalization is one of the answers needed to answer future educational challenges (Cristiana, 2021).

A culture where education is closer and closer to digitalization, a culture that combines technology-based education with more humanistic conventional education. With this combination, this new educational culture brings optimism and bright spots in the progress of digital literacy to face the era of industrial revolution 4.0. The relationship between the development of the world of education in the post-pandemic period, the era of industrial revolution 4.0, education and digital literacy is expected to be able to prepare quality graduates who are able to compete globally, as well as mastering technological developments which are very important for everyone and for the future of a nation and country (Prasetyo & Maulida, 2022). Talking about education in the industrial revolution 4.0, it is said that this is a term used by education experts/practitioners in integrating or combining cyber technology in the teaching and learning process, which in popular language is known as the digital era. Education in this digital era is a response to the needs of the industrial revolution 4.0 in which machines and humans are harmonized or combined in terms of getting solutions to existing problems, solving problems and finding new innovation possibilities (Sufyan, 2022).

According to (Gumelar, 2020), Education in the era of industrial revolution 4.0 like this presents its own challenges for teaching staff such as teachers and lecturers in implementing it in teaching and learning activities. At a minimum, teachers are required to have 4 competencies, namely:

1. Have critical thinking skills in problem solving

This skill is a skill in understanding a problem that is occurring, searching for and obtaining as much information as possible so that you are able to create various perspectives in solving the problem. And it is these competencies that teachers then teach and implement to those they teach.

2. Have skills in communication and collaboration



This skill is related to information technology-based learning, so that teachers can optimize collaboration skills in the teaching and learning process.

3. Have creative and innovative thinking skills

In learning activities, it is very important for every teacher to have a creative and innovative spirit. This attitude can trigger students to participate in creative and positive thinking in studying.

4. Technology and information literacy skills

To become a successful teacher, someone must be able to explore many references to support their teaching and learning activities more optimally and precisely.

According to the learning approaches or learning methods that can be applied in the era of transformation from conventional learning to digital learning, there are 3 (three), namely student-centered learning, problem-based learning and flipped learning. Implementing Student Centered Learning, learning must be adapted to student characteristics. According to Oktarina (2017) explains that Student-Centered Learning is a teaching and learning activity that is centered on students. In another sense, this method requires students to become active actors in the teaching and learning process. This is of course in sharp contrast to Teacher-Centered Learning where teaching and learning activities are more dominated or centered on educators. Learning using the student-centered learning method certainly provides many benefits for both students and educators. Furthermore, the Problem-Based Learning approach is one of constructivist learning which is an alternative learning that can be implemented in an effort to overcome misconceptions apart from other teaching and learning strategies, for example through relationship analogies, dialogic interviews, group discussions, computer simulations, concept maps, field experience or experiments as well as ongoing questions. Thus, the problem-based learning method or Problem-Based Learning is a learning method that focuses on the root of the problem and then solves the problem. (Abudin, 2011). Furthermore, the Flipped-Learning learning approach is an innovative pedagogical approach that focuses on student-centered teaching by flipping the traditional classroom learning system that has been carried out by teachers. This is in line with the statement (Keengwe, 2014) which states: "The flipped classroom is an instructional approach that educators use to turn the traditional classroom lecture model into a more active learning classroom". In other words, flipped-learning is more directed towards blended lessons (Tantri, 2021).

According to the learning approaches or learning methods that can be applied in the era of transformation from conventional/traditional learning to digital learning, there are student-centered learning, problem-based learning and flipped learning. The application of Student-Centered Learning, this learning is adjusted to the characteristics of students. Student-Centered Learning is a teaching and learning activity that is centered on students. This means that the use of this method requires and requires students to become active actors and take part in the teaching and learning process (Sufyan, 2022).

Some parties believe that the digitalization of education has the potential to have a negative impact on the educational culture and quality of human resources (HR) of Indonesian students. However, this problem will be refuted by Abuddin (2011) statement explaining that Islamic education requires reliable human resources, high commitment and work ethic, management based on strong systems and infrastructure, adequate financial resources, strong political will, and superior standards. The world of education must be responsive to the digital era that has emerged with internet-based management systems. Then clarified by the opinion of M. Enoch Markum, the development of the education sector has a strategic role as one of the factors in realizing the reliability of Human Resources (HR). What is needed as one of the basic capital for sustainable national development (Hermawansyah, 2021).



The positive impact for children is the availability of mass media to search for information and flexible learning time. Meanwhile, the negative impact on children is that children have difficulty understanding the material, become lazy about studying, misuse of technology during online learning, and the emergence of an indifferent attitude towards the surrounding environment. The positive impact of digitalization of education for parents is that they can monitor their children's learning activities while at home. The negative impact of digitalization of education is that parents have difficulty understanding children's material and expenses increase as a result of providing children with facilities (Wulandari & Ardianti, 2021).

In the world of education, the impact of digitalization is taking place quickly and has a big impact. An example is the emergence of various new learning resources. With the emergence of various new learning sources, this has had an impact on students' activeness in obtaining information about education. The impact is that teachers are now not the only source of educational information obtained by students. With this, it is possible that students can be more updated than teacher educators. It cannot be denied that the spread of information on the internet is very fast and spreads easily. This is what makes digitalization have a positive impact on the world of education (Wildan et al., 2022).

4. CONCLUSION

Based on the results and discussion, it was found that digitalization of education has an effect on student learning patterns, namely that learning is more interactive and efficient because it can be done anywhere and at any time. However, it should be noted that in the digital era there needs to be a role for families, teachers and the community to supervise and direct students in using technology. Conventional learning patterns have begun to be abandoned and shifted to using information and communication technology-based learning, this can be done by learning using e-learning. This media learning pattern, learners can choose learning materials based on their own interests, so that learning becomes fun, not boring, full of motivation, enthusiasm, attracting attention and so on. Conventional learning patterns make learners only actively learn about the material without being developed again, while learning patterns in the era of digitalisation of education use innovative ways that can produce practical ways of learning and can be applied directly.

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