

The Effectiveness of Inquiry-Based Animaker Media in Learning History in the Era of Industrial Revolution 4.0

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Abstract: *Industrial Revolution 4.0 has brought changes in various aspects of human life. One of them is the education system. This article discusses the importance of innovation in historical learning methods that emphasize high understanding and students' ability to find information on their own. In the era of Industrial Revolution 4.0, technology plays an important role in education, enabling creative and innovative learning. The inquiry learning method, which emphasizes direct student involvement in the learning process, is considered effective in improving students' understanding and skills. The use of inquiry-based Animaker learning media in history learning in high school is expected to improve the quality of learning and prepare students to face increasingly complex future demands. Apart from that, this article also highlights the importance of 21st century skills, such as communication, collaboration, critical thinking and creativity, in facing the challenges of the Industrial Revolution 4.0. This approach was chosen according to the problem being studied. The combination of these two approaches will strengthen the study relating to the overall phenomenon being investigated.*

Keywords: *Industrial Revolution 4.0, Inquiry Learning, Media Animaker.*

1. INTRODUCTION

A phenomenon that is still found in the learning process today is that educators are less creative in using learning methods. In learning history, teachers tend to use conventional methods, namely, the teacher explains and the students just listen. This type of history learning method certainly makes history lessons boring because students feel they are not actively involved in the learning process. Therefore, there is a need for updates regarding the teaching methods that will be used, especially in history subjects.

Entering the era of Industrial Revolution 4.0 which is marked by the use of virtual and sophisticated technology which influences various areas of life, including education. Learning is no longer limited to the classroom, but also involves computer-assisted learning innovations.

History learning in the 2013 Curriculum emphasizes high levels of understanding and students' ability to find information on their own. Educators act as facilitators in the learning process. This curriculum encourages creative and innovative learning with a scientific approach, in line with the demands of the Industrial Revolution 4.0 era for learning that is also creative and innovative by utilizing technology.

One learning method that uses a scientific approach is the guided inquiry method. Inquiry comes from the word to inquire which means taking part in asking questions, seeking information and carrying out investigations (Suryandari, et al, 2016:2, Fairuzabadi, et al, 2017:101).

The inquiry learning method is a learning method that focuses the learning process on direct and maximum student

involvement (Sugiarta and Ratnani, 2017:14). The inquiry learning method provides students with the opportunity to be directly involved in solving a problem, so that the experience students gain can be meaningful (Zahro, Umamah, Suranto, 2014:2).

Learning media is part of the learning method. Learning media are tools or means used by educators to convey messages or teaching materials to students. The aim is to clarify the message conveyed so that learning is effective and efficient.

Learning media has the function of generating new interest and motivation for learning, as well as providing stimulation for learning activities. Learning media can also help students improve understanding, present data in an interesting and reliable manner, facilitate data interpretation and condense information (Nurdyansyah, 2019).

Media that can be combined with the inquiry learning model is Animaker video media. Media Animaker provides software products for creating animated videos that provide free and paid services (Helianthusonfri, 2019). The Animaker application contains text, moving images accompanied by sound, as well as slides and transitions so that it gives the impression of learning material that attracts more attention. (Munawar et al., 2020)

This research aims to determine the effectiveness of inquiry-based animaker learning media in high school history subjects. There are several assumptions in developing this learning media, including: (1) inquiry-based animaker learning media is effectively used in history subjects. (2) Animaker learning media is designed and arranged systematically to help educators and students.

2. RESEARCH METHODS

This type of research is experimental research with a one group pretest-posttest design pattern. Data collection techniques in this research used observation, questionnaires, interviews, and tests. The subjects of this research consisted of 1 history subject educator and students at one of the state high schools in Jember Regency. The data analysis techniques in this research are qualitative and quantitative analysis techniques. Qualitative data analysis was obtained from literature studies, observation results, questionnaires, expert advice and school documentation. Quantitative data analysis is used to define the quality of learning media that is developed according to students' learning outcomes after using inquiry-based Animaker learning media as learning media.

The data used to determine the effectiveness of using inquiry-based Animaker learning media was obtained through pre-tests and post-tests given to students before and after using inquiry-based Animaker media in history learning. The effectiveness of learning media can refer to Hake's theory regarding normalized gain. Richard R. Hake explained that the gain score is the difference between the final test score (post-test) and the initial test (pre-test).

3. LITERATURE REVIEW

This research uses several references in the form of previous research related to the problem discussed. The journal "Creating Space for Active Learning: (Opportunities from) Using Technology in Research-Based Education" by Eirini Gallou and Peter Abrahams (2018), published by UCL Press, discusses the use of technology in research-based education to improve student learning experiences. The journal emphasizes the importance of students' active participation in the development of their own learning tools, as well as highlighting the challenges and opportunities of integrating technology into the curriculum. The journal also provides examples from various disciplines, such as science, medicine, architecture, and engineering, that can utilize technology to engage students through interactive and hands-on learning experiences. In addition, the journal discusses the potential benefits of technology in enhancing active learning and presents case studies from a range of disciplines, including Professor Abrahams' work in anatomy and medicine, UCL Museum Studies, and architectural engineering.

Rofe's journal (2023), entitled "Exploring Digital Learning," explores the complex relationship between digital, online and distance education. This journal highlights the global and local impacts of digital technologies and emphasizes the need to understand these ways of education to benefit educators, students, and institutions. This chapter provides insight into the challenges and opportunities posed by digital learning, emphasizing the coexistence of digital and physical spaces in education.

Journal "Visions for the Future of Educational Technology" by Mike Sharples, part of the book "Educational Visions: Lessons from 40 years of innovation (2019)." This chapter emphasizes the importance of ongoing research in understanding the science of learning and designing effective interventions. It also highlights the importance of inquiry learning, which has evolved through stages such as personally meaningful inquiry and citizen inquiry, as well as the potential of mobile technology for accessible and contextualized learning.

Andriani (2016) with research entitled "The Effectiveness of Inquiry Learning Method to Enhance Students' Learning Outcome: A Theoretical and Empirical Review". The research results show that the inquiry learning model provides students with the opportunity to construct their own knowledge, use the concepts they already have to solve the problems they face, in other words, and students have the opportunity to connect new information with existing cognitive structures so as to produce meaningful learning.

Marsini et al., (2023) with research entitled "Effectiveness of Inquiry Learning Models to Improve Students' Critical Thinking Ability". The research results revealed that the inquiry learning model had a significant effect on students' critical thinking abilities.

Suwandi & Alfat (2022) with research entitled "Learning models innovation in industrial revolution 4.0 era". The research results show that the industrial revolution 4.0 affects all aspects of life, including the world of education. As a result, the world of education needs to make adjustments and the relevance of education through innovative learning processes with developments that adapt to the needs and developments in science and technology (IPTEK), as well as by paying attention to literacy and competence in the era of globalization.

Lase (2019) with research entitled "Education and Industrial Revolution 4.0". The research results reveal that the industrial revolution 4.0 has changed the way of thinking about education. The changes made are not just the way of teaching, but what is much more important is the change in perspective on the concept of education itself.

Thus, researchers want to conduct research using learning media to see whether the Animaker media is effective or not in learning history in the era of the industrial revolution 4.0. Therefore, researchers will conduct a study entitled "The Effectiveness of Inquiry-Based Animaker Media in Learning History in the Era of Industrial Revolution 4.0".

4. RESULTS AND DISCUSSION

Animaker Learning Media

The development of technology in the current era of the industrial revolution should be able to improve the quality of the learning process both in terms of teaching materials and media that support the teaching and learning process.

Along with advances in science and technology, the teaching and learning process no longer refers to conventional methods such as writing on a blackboard or lecturing. Learning must now be enriched with modern electronic and

audio-visual media, such as computers, laptops and cellphones that utilize internet facilities.

According to various learning theories, an effective learning process places students not only as objects, but also as subjects. In this way, students are expected to be more active and motivated to participate in the learning process and understand the explanations given. (Hasan et al., 2021; Gusmirawati et al., 2023).

Thus, the use of media in the teaching and learning process is very necessary to attract students' attention and interest in learning and make teaching and learning activities more interesting.

Referring to the word, media comes from the Latin *medius* which literally means intermediary. So it can be concluded that learning media includes everything that can be used to convey messages or teaching materials from educators to students. This media functions to clarify the message conveyed so that learning objectives can be achieved more effectively and efficiently.

Apart from that, learning media also functions to generate motivation and stimulation of learning activities and has a psychological influence on students. The role of educators is a key factor in achieving learning goals. Educators are required to be able to use and choose learning media that is appropriate and appropriate to the material to be explained and in accordance with learning needs. (Fajarwati & Irianto, 2021; Gusmirawati et al., 2023). Media that can be combined with the inquiry learning model is Animaker media.

Researchers took the initiative to create learning media in the form of animated videos based on Animaker. This animated video media was designed using a special application to produce a learning media that can attract students' interest in studying history.

The Animaker application provides software for creating animated videos with free and paid services (Helianthusonfri, 2019). In the Animaker application, there is text, moving images, sound, as well as slides and transitions, all of which make learning material more interesting (Munawar et al., 2020).

Thus, Animaker-based history learning media allows presenting historical material in a more interesting and interactive way through the use of animation, text, moving images and sound effects, thereby increasing students' interest and understanding of history lessons.

Effectiveness of the Inquiry Learning Model

21st century education has big challenges related to the integration of information technology in learning (Farizi et al., 2021; Azizah et al., 2022). The advancement of technology today requires educators and students to equip themselves with technological skills in the digital era.

21st century skills or better known as 4C (Communication, collaboration, critical thinking and problem solving, and creativity and innovation) are absolutely necessary in the era of Industrial Revolution 4.0 (Zuhri: 2017). The 21st century is the century of globalization.

The needs of generation Z are the current focus of learning (Umami et al., 2021). Technological advances have resulted in this generation being more innovative in accessing information because they are used to operating technology.

However, a phenomenon that often occurs during the learning process is that many participants are more passive, reluctant, afraid or embarrassed to express their opinions. This situation certainly interferes with the smooth learning and hinders students' creativity in learning activities. Apart from that, the learning process is still centered on educators, where educators tend to communicate in one direction by providing a lot of material and giving students little opportunity to interact through performance or verbal communication. If this continues, more and more students will experience difficulties in learning, so that learning outcomes will not be as expected.

The demands of the 21st century require education to continue to create a young generation who have life skills to be able to survive and compete in a global society. The skills needed include the ability to think critically, communicate effectively and efficiently, develop technology (Silva, 2008; Andrini 2016), and work flexibly, productively, innovatively and responsibly (Suto, 2013; Andrini 2016).

The use of learning media is also inseparable from learning methods, so the two cannot be separated like two sides of a coin (Umamah, 2018). Animaker media is suitable to be combined with the Inquiry Learning method. Inquiry comes from the word to inquire, which means participating in asking questions, seeking information, and carrying out investigations (Suryandari et al., 2016; Fairuzabadi et al., 2017; Azizah 2022).

The Inquiry learning model involves students in solving problems through investigative activities, which aims to improve their skills and knowledge independently (Trna, Trnova & Sibor, 2012; Andrini 2016). The main mission of Inquiry learning is to support the development of intellectual discipline and thinking skills through asking questions and searching for answers based on curiosity (Sanjaya, 2016).

Through the Inquiry learning method, students will be taught to dare to express opinions and discover their own knowledge, which will help them in solving problems. The use of this method is very efficient and effective in reducing the dominance of educators in controlling the learning process, as well as reducing students' boredom towards the lesson material.

The application of the Inquiry learning model provides greater opportunities for students to learn how to discover facts, concepts and principles through their own direct experience. Guided inquiry learning begins with a problem presented by the educator that is complex or cannot be explained directly. Next, students make observations and conclude their answers. However, educators remain in control of the questions asked, the hypotheses created, and what students observe. The role of educators during the learning process is as a facilitator who guides students to discover concepts, not just as a transmitter of knowledge (Nurmayani et al., 2018; Marsini 2023).

The Inquiry Learning syntax in this research is adapted from Pedaste et al. (2015), including Orientation, Conceptualization, Investigation, Conclusion, and Discussion. Referring to previous research, it is said that the Inquiry model is effectively used in 21st century education.

The Relevance of Animaker Learning Media to the 4.0 Revolution

Now, we have entered the fourth industrial era, characterized by increased connectivity, interaction, and the development of digital, artificial intelligence, and virtual systems. One impact can be felt in the education sector. It cannot be denied that education must always keep pace with the times. Education must adapt to change.

Improving the quality of human resources through education is one way to maintain balance in facing the era of Industrial Revolution 4.0. The success of a country in facing the challenges of the Industrial Revolution 4.0 also depends greatly on the competence of teaching staff, especially educators. Educators must have the skills and abilities to adapt to new technology and global dynamics. By optimally utilizing technology as a tool in education, it is hoped that we can create output that is able to adapt and change times for the better.

The term Industrial Revolution 4.0 was first introduced by Professor Klaus Schwab, a leading German economist and founder of the World Economic Forum (WEF). In his book entitled "The Fourth Industrial Revolution," Schwab states that the Industrial Revolution 4.0 has great potential to fundamentally change our lifestyle, world of work and social interactions (Schwab, 2016; Lase 2019).

Education 4.0 is the result of a response to the demands of the Industrial Revolution 4.0, where humans and technology work together to find solutions, solve challenges, and initiate new innovations that can improve the quality of human life in the contemporary era.

In essence, Industrial Revolution 4.0 refers to major changes in the way humans produce, communicate and interact with technology that is developing rapidly in the current era.

The Industrial Revolution 4.0 era has also changed the way of thinking about education. In facing all existing challenges, the crucial thing is to ensure that educators have quality qualifications and competencies. Because, in the era of Industrial Revolution 4.0, competition in the teaching profession is increasing. For this reason, teachers are naturally required to have competence in the use of learning technology as stated in teacher competency.

The use of media in learning is a part that must receive attention from educators as facilitators in every learning activity. In the era of Industrial Revolution 4.0, where digital technology is the main foundation for various aspects of life, including education, learning media such as Animaker have significant relevance. Animaker, as an animated video creation platform, not only facilitates the delivery of learning material in a visual and interesting way,

but also encourages student creativity in the learning process. With Animaker, students can learn in a more interactive way and are directly involved in the process of creating their own learning content.

In addition, Animaker allows teachers to create dynamic learning materials tailored to student needs, as well as utilize animation technology to explain complex concepts more easily. Thus, the use of Animaker in learning not only supports adaptation to technological changes in the Industrial Revolution 4.0 era, but also helps improve the quality of learning and prepare students to face increasingly complex future demands.

5. CONCLUSION

History education requires innovation in teaching methods, especially in the context of the Independent Curriculum which emphasizes high understanding and students' ability to find information on their own. In the era of Industrial Revolution 4.0, technology plays an important role in education, enabling creative and innovative learning. The Inquiry learning method, which emphasizes direct student involvement in the learning process, is considered effective in improving students' understanding and skills. The use of inquiry-based Animaker learning media in history learning in high school is expected to improve the quality of learning and prepare students to face increasingly complex future demands. In addition, the conclusions also highlight the importance of 21st century skills, such as communication, collaboration, critical thinking and creativity, in facing the challenges of the Industrial Revolution 4.0.

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