ARTIFICIAL INTELIGENCE IN THE FIELD OF EDUCATION THAT INFLUENCES HOW VALUES AND CHARACTER ARE FORMED AT STATE VOCATIONAL HIGH SCHOOL (SMKN 1) TAPAKTUAN, SOUTH ACEH REGENCY

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ABSTRACT

Artificial intelligence and character development in the field of education. A subfield of computer science called artificial intelligence is focused on the creation of artificial intelligence, thought patterns, and human-like behavior. Voice recognition, problem-solving, education, and planning are a few examples. The growth of intellect is significantly influenced by artificial intelligence (AI), a subset of the digital literacy system. The use of ai is one of the innovative efforts in learning media that are required in the field of education. This study aims to enhance student learning while fostering morals and virtues and assisting ai systems in their adaptation. The approach adopted employs experimental techniques to ascertain how student reactions and adaption.

Keywords: Technology Value, Character Education, And Artificial Intelligence.

INTRODUCTION

The Industrial Revolution 4.0 is an era when humans are required to be more advanced in technology both in industry and education. In education, it is necessary that there is an innovation in driving real progress. And this can be done with today's digital literacy efforts.

According to Paul Gilster in his book entitled Digital Literacy (Dressen, 2021), digital literacy is defined as the ability to understand and use information in the form of a very wide variety of sources which are accessed via computer devices. (Naufal, 2021) offers a new understanding of digital literacy that is rooted in computer literacy and information literacy. Computer literacy developed in the 1980s, when microcomputers were increasingly being used, not only in the business environment, but also in society. However, information literacy only spread widely in the 1990s when information became easier to compile, access, and disseminate through networked information technology. Thus, referring to Bawden's opinion, digital literacy is more associated with the technical skills of accessing, assembling, understanding, and disseminating information.

In the field of education, learning pattern problems often occur which include less comprehensive learning methods and strategies. Both students and students often misinterpret in understanding the material provided, it is not an absolute mistake for educators and their students. However, there needs to be an innovation system that can improve the quality of mindset and competence so as to minimize these incidents. Thus, this matter will have an impact on the level or percentage of success in educational goals. So, the quality will be higher if there is a system that supports it, such as artificial intelligence. Artificial Intelligence (AI) is a branch of computer science that emphasizes the development of machine intelligence, patterns of thinking and working like humans. For example, speech recognition, problem solving, learning, and planning. In Indonesia itself, it has not yet reached a high enough percentage level in terms of adopting Artificial Intelligence, with

Thus, it is necessary to boost the system in the field of education. The goal with the Artificial Intelligence theory movement is to really understand what intelligences and to make machines more useful in education to make it easier for students to learn according to their experience. Creating a better quality of student learning and efforts to implement the formation of values and the character of students and students. Education is not only related to the quantitative competence of students and students, but also related to the values and character acquired during their education.

According to an article compiled by (Kuswardayan & Khotimah, 2017) entitled "Implementation of Artificial Intelligence in Game Defender of Metal City using a Finite State Machine" states that games are a type of software that is popular today. In ordinary games, there is Artificial Intelligence (AI) that controls the computer so that humans who play can feel as if they are fighting other human players while playing. One type of game that exists is tower

defense where players need to defend their tower or base so that it is not destroyed by the opponent. To create an AI for a tower defense type game, a good algorithm is needed to regulate the movements of opposing troops. This study proposes the application of AI in tower defense games using a rule based Finite State Machine. Each troop has an AI with several states, when certain conditions occur, troops will move from one state to another based on predetermined rules, only one state can be active at a time. In this study AI will be divided into 3 levels namely easy, medium, and hard. Testing is carried out by comparing AI levels at all possible levels of difficulty, then a table of the winning degrees or winning rates of the existing AI is made. Based on the results of testing the Finite State Machine can be applied to games which are good tower defense type to form a strong AI

Artificial Intelligence (AI) or artificial intelligence is driving the industrial revolution 4.0 which promises many conveniences for government and industry. Internet of Things (IoT) with big data for example where AI can be implemented, technology that has been widely adopted in the industrial era 4.0 is able to connect every device, one can automate all devices without having to be on location, more than that, now there are many machines which can interpret certain conditions or events with the help of AI, as smart cameras detect the volume density of vehicles on the highway using Deep Learning Neural Network technology, which has been implemented in several Regency and City Regional Governments in support of the Smart City program that has been launched. In the industrial sector, many of them have also automated production machines and robot manufacturing and Artificial Intelligence, so that Industry 4.0 will increase competitiveness through smart devices, every entity that is able to master this technology will have a competitive advantage. However, in the midst of the massive development of Industry 4.0, the government must move quickly in adopting this platform, otherwise they will reduce the efficiency of business processes to maintain the stability of public services. Therefore, proper knowledge and understanding is needed for the government in facing the Industry 4.0 era, where the Chief Information Officer (CIO) can take an important role in providing support.

According to (Maufidhoh & Maghfirah, 2023) stated that Artificial Intelligence (AI) or artificial intelligence has developed rapidly in the last decade. Its users are widely implemented across sectors such as State-Owned Enterprises (BUMN), Universities, and Government. The study uses Strength-Weakness-Opportunity Threat (SWOT) to measure AI implementation. The sample is aimed at government and BUMN business incubators,

Besides that it also uses content analysis of several existing AI implementations. The results show that increasing the effectiveness and efficiency of companies is the main factor driving the high level of AI implementation. However, the implementation and development of AI technology will not be optimal if it is not paid attention to in detail or is compared with other technologies (food technology and others). The difference with the writing that researchers do is Artificial Intelligence with the formation of values and character in the field of education, especially social studies education by utilizing social legacy.

METHODS

The method in this study uses the experimental method. Where in pursuing the Artificial Intelligence movement it is necessary to conduct experiments for the education sector. This method is adapted to student interests, student abilities and student learning experiences, especially in the operation of e-learning-based technology and to student responses in the future related to character values. This is done to sharpen the algorithm when students access educational features or information. In addition, AI can also be simplified when carrying out the process of preparing data for analytics, developing models according to algorithms which are then integrated and interpreted into a product system. Additionally, you can code projects that combine SAS with other languages, including Python, R, Java, or Lua.

RESULTS AND DISCUSSION

The development of science and information technology has experienced rapid growth and has a positive impact on humanity. One of the technological developments that continues to grow today is the internet. Directly affect the basic need for inside information human life today because information is very easy to obtain in various aspects of human life. Developments in the field of science and information technology are always followed by impacts, both directly and indirectly. Advances in information technology, society has a wider space for movement. Human activities that were originally national in character have turned into international, events that occur in a country within seconds can be known by residents of other parts of the world. The need for competitive advantage in various strategic sectors has historically been the driving force for the development of new, more sophisticated, intelligent and cost-effective mechanisms in the process of production and provision of services. In this regard, and since the beginning of the industrialization era, from time to time, leaps in technological trends occurred and revolutionized the concept of production and service provision, this is known as the industrial revolution. The first industrial revolution took

place in the fields of mechanization and steam engines, the second industrial revolution was based on the intensive use of electrical energy and mass production, and the third industrial revolution was founded in the IT environment and expansion of the digital domain.

Industry 4.0 is closely related to creative innovation. In recent decades, innovation has added to the compilation through mobile application cloud computing and big data which together can build a perfect symbiosis, create a new concept for the perfect symbiosis process, create a new concept for the industrialization process, and shift the market model to a new era. competition and product differentiation (Yogaswara, 2019). Industry 4.0 represents a shift towards an innovation-driven economy with science, data and IoT as central concepts. This will influence the structure of current models, markets, and industrial-age business processes and pave the way for a new era of digitization, systems networks, "smarter" production, and interconnected business processes.

There are three points that represent the industrial revolution 4.0 (Mulianingsih et al., 2020) (1) Digitalization of production-information systems for management and production planning; (2) Automation-systems for data acquisition from production lines and using machines; (3) Linking manufacturing machines in a comprehensive supply chain and automatic data exchange.

Behind the development of industry 4.0, there is a technological trend that has become an activator for this era, namely Artificial Intelligence (AI) or what is commonly called artificial intelligence (Bongomin et al., 2020). The shift in the mechanism in the manufacturing process will be completed in the work of smart machines that interact with each other and the user. AI can effectively address the challenges faced by today's manufacturing industry, through AI-enabled adaptive manufacturing, automated quality control, predictive maintenance, and more. AI can provide solutions around visual inspection, control and automation, calibration and tuning, and automated problem identification for large manufacturers partners. The mechanisms that work in the form of machine learning algorithms, applications, and platforms help manufacturers find new business models, improve product quality, and optimize manufacturing operations.

The application of AI in various fields of life creates its own challenges for the world of education. Universities are racing against time to produce as many graduates with qualifications in AI as possible to meet the needs of the industry. AI works by combining large amounts of data with fast, iterative processing, and intelligent algorithms, enabling software to learn automatically

from patterns or features in data (Jazar & Dai, 2019). AI is a broad field of study covering many theories, methods and technologies, as well as major sub-fields. Artificial intelligence or artificial intelligence (AI) has now been developed on a large scale so that this technology will imitate even take over the work that is usually done by humans. Several technology companies have implemented AI including Amazon, Facebook, Microsoft, to Google. But who would have thought that this AI also penetrated into the world of education. The reason is, schools are also developing as well as technology. One of them is an accounting course at Umass Lowell using online textbooks through practice software (Visipena et al., 2022). Microsoft founder Bill Gates himself is a supporter of the use of AI in education. Gates even believes AI will improve education in many ways.

Learning in this AI system is personalized learning so as to enhance student learning experiences. AI learning in these individual systems shows that it can improve student focus. This is because AI has the ability to teach individual students and recognize the areas needed to find the right way of teaching students through artificial intelligence. For example, if this technology knows someone is interested in racing cars, then that will be used as an analogy or example to understand the subject matter. AI intelligence can identify concepts like what students don't understand. So that later AI can make adjustments to find new ways to help student learning. Blackboard, one of the tools in the field of education is now widely used by universities. An online platform is used by professors to release notes, homework, quizzes, and tests, and allows students to submit questions and assignments for grading (Fauziah, 2023). This tool can also identify the reasons behind students' lack of understanding. Another benefit of AI programs is that it starts with both multiple choice and short answer questions. In the future, AI will also be able to assess essay questions. Therefore, teachers no longer need to spend time on hourly grading assignments because teachers can concentrate more on teaching and one-on-one interaction only. Students also get live scores through AI. They don't have to wait a long time to get their grades. Students will also reap the benefits of teachers having extra time for teaching and learning.

The application of AI, on the other hand, has also penetrated the education sector, from basic education to higher education, even professional education. AI is believed to be able to help humans learn better and achieve their desired educational goals. In other words, values and character in education are also questioned.

One of the biggest challenges in the world of education besides the way and speed of learning that is different for each individual is the good and bad

values that are embedded in them after adapting to using an artificial intelligence-based system. The impact that is given also influences the development of students in acting, responding and addressing all existing problems. Both the value of honesty to the value of competition and responsibility. In general, sophisticated IT-based applications have a very significant impact on the mindset and general knowledge of students and students, this will require critical and observant thinking, their abilities will also be supported by very advanced interaction and access. However, bad things can also happen like a habit of full duplicates without filtering them first.

The challenge of implementing Artificial Intelligence also lies in values and character, this can be shown by the treatment and control of the management and use of educational applications based on artificial intelligence. The role of educators, parents and the government also holds full control over students so that they use the application media wisely and professionally. The need for instilling values and character so that the system artificial intelligence runs smoothly and as it should. Several previous cases have also occurred with the existence of IT-based learning media which actually traps students into bad habits (Filina et al., 2022). That way it is necessary to have security apps that allow students or students not to commit fraud such as full plagiarism and copyright infringement. Based on the previous case, it is known that there is a large number of duplicate data, therefore IT-based media or Artificial Intelligence does not fully guarantee students' good habits in adapting to technology. The need for fundamental values and character education to accompany the progress of the education system.

Currently, there are also several educational applications that adopt artificial intelligence such as voice assistants which allow students to interact with learning materials without having to interact with teachers or lecturers, both in the classroom and at home.

In addition to facilitating the delivery of information and interaction, these features can also threaten the behavior of students and students who turn into passive people. So it can be concluded that even the most sophisticated Artificial Intelligence does not necessarily become a good habit of being ethical in technology, so there is still a need for direct education and teaching in guiding and directing their students.

CONCLUSION

Artificial Intelligence is a branch of computer science that emphasizes the development of machine intelligence, patterns of thinking and working like humans. For example, speech recognition, problem solving, learning, and

planning. AI can also be applied in the field of education which has an impact on the values and character of students, namely both students and students to increase the sharpness of mindsets and other new views. AI makes it easier for students and students to support their studies in a visibility and comprehensive manner, but even as sophisticated Artificial Intelligence does not necessarily make good ethical habits in technology, so there is still a need for direct education and teaching in guiding and directing their students.

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