Student Motivation in Learning Through the Use of Artificial Intelligence

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Abstract

The improvement of education quality is a current focus of attention. Enhancing the quality of education is inseparable from the need for educational innovation. Educational innovation aims to transform the learning process, improve the learning environment related to the curriculum, upgrade teaching facilities, and enhance the professional quality of educators. Teachers, as the front line of education, must assume the roles of planners, implementers, and evaluators. They must also serve as role models, motivators, and guides for their students, in line with the Tri Principles of Education. One significant innovation in education is the application of technology, particularly artificial intelligence (AI), which continues to advance rapidly each year. AI increasingly influences many aspects of human life, including education, by offering new features, functions, and forms (Luger & Stubblefield, 1993). AI is becoming a pivotal component of educational technology development and is starting to play a role in learning activities within schools and universities (Mulianingsih et al., 2020). The integration of AI into education presents vast opportunities to improve the efficiency and effectiveness of learning. AI provides quick feedback, accurately comprehends and recognizes educational materials, and fosters creativity. It helps students develop skills and innovate through personalized and effective learning experiences. However, balancing the use of AI with the essential role of teachers in education is crucial. An optimal blend of advanced AI technology and meaningful human-computer interaction can create the most enriching and impactful learning experience for students.

Keywords: *Artificial Intelligence Applications, Learning, Motivation.*

1. Introduction

Artificial Intelligence (AI) has become an important topic in education, with various ways to improve the quality of educational programs. In facing developments in science and technology, teachers have a big responsibility to improve their abilities and skills, as well as prepare professional educational resources for students. Each student has different abilities in understanding material, and the teacher's job is to combine these various intelligences to create a pleasant learning environment, so that students can make maximum use of their intelligence (Suciati et al., 2002). Children's intellectual development is a process of assimilation that involves internal reorganization of the brain to process new information or experiences (Piaget in Jana, 2002). In this context, teachers need to choose the right learning method to present the material effectively. It is important for teachers to have an understanding and application of various methods, as well as to prioritize more interesting approaches, such as questions and answers, assignments, discussions and demonstrations.

In an effort to improve students' abilities and competencies, artificial intelligence is really needed, considering that the world of education is currently developing rapidly with applications and features that facilitate the learning process (Luger & Stubblefield, 1993). AI has a vital role in educational progress, providing significant changes that can support learning activities in schools

and campuses. Even though educational technology has not yet been fully implemented, there are still some institutions that are reluctant to take advantage of the emergence of technology to make the work of teachers and students easier (Tjahyanti et al., 2022). Schools should leverage technology to automate tasks such as providing feedback and customizing learning materials according to student needs.

Motivation is also an important factor in the learning process, which is both internal and external encouragement that triggers someone to do something. Strong motivation allows students to focus on goals and strive to achieve them, as well as helping them overcome obstacles that may arise. There are various types of motivation, such as intrinsic motivation, which comes from within oneself, and extrinsic motivation, which comes from outside a person. Intrinsic motivation encourages someone to do activities they like without expecting a reward, while extrinsic motivationarises because of promised rewards in the future.

Self-learning is a process in which a person acquires abilities, skills and attitudes. This business is part of the human need to gain new knowledge and experience. Through learning, individuals become aware, understand, and are able to apply the knowledge they have learned. In education, the teaching and learning process is a basic activity that determines the success of achieving educational goals. Learning motivation, which is the encouragement of students to carry out learning activities, is very important to ensure the continuity and direction of learning activities. Without motivation, students will not be able to participate in the learning process. Learning motivation is a student's tendency to carry out all learning activities driven by the desire to achieve maximum achievement. Every student has different motivations for learning, where some may want to avoid bad grades, while others want to develop their abilities and knowledge.

Education at the Vocational High School (SMK) level is expected to experience rapid development in line with progress in various aspects of education. As the population increases and scientific insight develops, new innovations in various fields, including education, will continue to emerge. However, improving the quality of education cannot occur without the will of educational actors. Teachers as the main movers in the world of education must be able to act as planners, implementers and motivators, in accordance with Ki Hajar Dewantoro's philosophy: "Ing Ngarso Sung Tulodho, Ing Madya Mangun Karsa, Tut Wuri Handayani." Unfortunately, the role of teachers at the vocational school level cannot function optimally due to the various challenges they face. These challenges come both from within the teacher, such as a lack of awareness of the demands of the times, and from external factors such as inadequate sources of materials and tools at school. While the author carried out his teaching duties, it was found that many fellow teachers still used monotonous learning methods, such as lecture and dictate. This makes students feel bored and fed up. Based on this experience, the authortries to invite fellow teachers to better understand the conditions and needs of students so that the learning process runs well.

Previous research shows that the application of artificial intelligence (AI) in learning can havea positive impact. Perin and Lauterbach (2018) found that AI-based grading systems enable faster communication of grades between students and teachers. Luckin (2017) shows that AI is able to provide constant feedback regarding student learning progress. Additionally, Banerjee et al. (2021) found that teachers believe AI can be used effectively to provide personalized support to students. The results of systematic research and meta-analysis by Larosa et al. (2023) support the positive impact of AI on student performance, including improving their learning attitudes and motivation. By using AI in the learning process, it is hoped that students can learn better, feel happy, and be motivated to learn.

Ethics of Using AI

AI systems should be used in a way that is clear and understandable to students, This includes knowing how the AI works, what data it uses, and what its limitations are. AI systems should be used in a way that is fair and equitable to all students. This means avoiding bias in the design and use of AI, and ensuring that all students have equal access to AI tools and resources. AI systems should be used in a way that respects student privacy. This means protecting student data and using it only for intended purpose, There should be clear lines of accountability for the use of AI in education. This means that there should be someone responsible for ensuring that AI is used ethically and effectively. AI should be used to support student learning, not to replace it. AI can be a valuable tool for students, but it is important to remember that it is not a substitute for human interaction and instruction. By using AI student will be easier to do their task because it helps them understand the material well, The potential for AI to be used to surveil students. AI can be used to track student behavior and performance. This raises concerns about

privacy and the potential for AI to be used to punish students. So teacher should take a look at who responsible and must have a good ethic to avoid bullying students, The impact of AI on the teacher-student relationship. AI has the potential to automate some of the tasks that teachers currently perform. This raises concerns about the role of teachers in the future and the potential for AI to dehumanize education. But still AI can't educate students about their behavior and practice their good character so in this point we still need teachers to build students character every day in the classroom.

So far, learning is still teacher-centered with less varied methods, and teachers often do not take advantage of the available technological features. Therefore, the author tries to use AI in learning so that students are more motivated, independent and active, and able to understand the material better. The aim of this research is to increase students' learning motivation through the use of AI, foster students' imagination and creativity, and increase students' actualization power from both cognitive, affective and psychomotor aspects. It is hoped that the benefits of this research will encourage teachers to use interesting applications in learning and increase their understanding ofAI. Apart from that, this research also aims to help students understand the material, increase their self-confidence, and develop creativity and imagination. Finally, it is hoped that this research can contribute to improving the quality of schools, strengthening a positive image in society, and increasing enthusiasm for schools.

2. Method

The research method used in this research is the Classroom Action Research (PTK) approach. PTK was chosen because the main aim of this research is to improve the quality of learning by applying artificial intelligence (Artificial Intelligence) in the teaching and learning process. This research involved class X students in SMKN 1 Tana Toraja as a research subject. This class was chosen based on the results of initial observations which showed low student motivation to learn and less than optimal use of technology in learning.

3. Results and Discussion

With artificial intelligence, users can do their work more quickly and actively, especially in the field of education, because this technology really helps in the learning process. The use of artificial intelligence not only makes it easier, but also accelerates the achievement of learning goals. Apart from that, artificial intelligence also makes it easy for students to foster their creativity, such as developing independent attitudes and innovation. In essence, every use of technology by teaching staff aims to facilitate the learning process while prioritizing the essence of teaching, especially in managing student ethics and behavior. The right educational technology can help students control and monitor their own learning (heutagogy), thereby improving the quality of their life and work in the future.

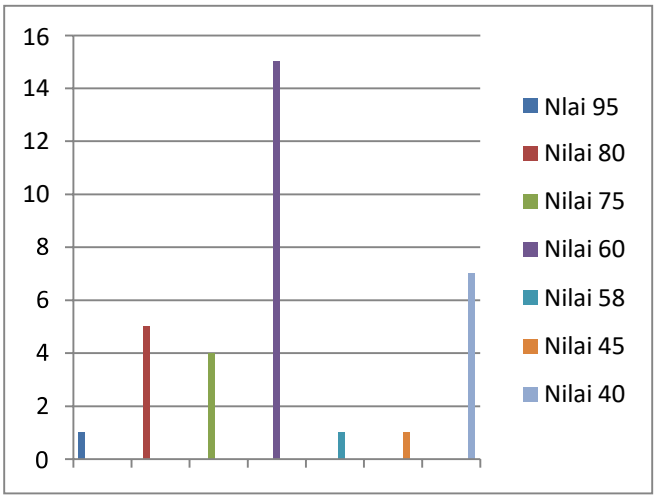
The results of observations made by the teacher also show indicators of students' learning motivation according to the observation sheet that has been prepared. In these observations, only some educators used artificial intelligence in the learning process. Researchers made observations using prepared guides, and the results showed the conditions before using Artificial Intelligence. After teaching and learning activities, the author conducted an evaluation to observe the test resultsobtained, and details of the scores for each student are presented in the table below.

No.	Student Name	Mark	Is.
1	Agiec RiyantoAndolang	45	Students who get grades: a. 95 = 1 person b. 80 = 2 people c. 75 = 3 people
2	Alfa SeptianKaryangan	40	
3	Alfandi Awards	58	
4	Alfario KeginBandaso	60	
5	Armi Saputra	60	
6	Brent	40	

7	Cindi	60	d. 60 = 9 people and. 58 = 1 person f. 45 = 1 person g. 40 = 5 people
8	Eci	80	
9	Karisa's pedigree	60	
10	Frederich JuanBara Padang	75	
11	Likuda Lebang'shopes	80	
12	Indra SaputraTumading	40	
13	Jennifer	60	
14	Lenscia MeyntaKondo Sura	75	
15	Leysiana MeiLukas Rexi	60	
16	Lisda Bara`Tangaran	95	
17	Listrania Thankyou	40	
18	Luisfigo GhiangHowling	60	
19	On Palallo	40	
20	Maya Pasanda	60	
21	Mia	60	
22	Midel Saleppa	75	
		1323	

Overall results	61
Top	95
Bottom	40

From the data displayed above we can see in the graphic image below:



Based on the graph above, it can be seen that there are 7 students with incomplete grades, namely grades 60 and below, while 15 students have completed grades between 60 and above. For this reason, the author conducted research on why students only understand learning that only explains it so that their motivation in learning is very low.

Reflection before using Artificial Intelligence shows several important findings obtained from the results of observations and analysis. First, in learning, there are still many students who are passive, and in general, students' learning motivation is relatively low. This has an effect

on the evaluation results, which show the need for improvement in order to achieve better results. Apart from that, the presentation of the material is also not good because it is not systematic and tends to be monotonous, so other methods or methods are needed to deliver the material. Thus, learning must be carried out using a more varied approach.

After analyzing the reflections, the researcher discussed it with supervisors and teachers from several classes. The results of this discussion are then used as a basis for making improvements through the application of Artificial Intelligence in several subjects. Some of the methods implemented include educational game-based learning and the use of applications such as Canva. By utilizing Artificial Intelligence, the learning process becomes more enjoyable for students, and the material can be delivered more optimally. With the various methods used, the desired results can be achieved, such as students who are motivated to learn, delivering learning material that is more interactive through educational games, and students who are able to explain and carry out evaluations well.

At the implementation stage, observations are made by an observer of the situation during the learning process. The results of the observations are recorded in an observation sheet that has been prepared by the researcher, which covers several aspects, such as teacher teaching preparation, provision of Artificial Intelligence, use of methods, suitability of application to material, and learning evaluation.

No.	Student Name	Mark	Is.
1	Agiec Riyanto Andolang	62	Students who get grades: a. 95 = 1 person
2	Alfa Septian Karyangan	62	
3	Alfandi Awards	67	b. 90 = 2 people

4	Alfario Kegin Bandaso	65	c. 80 = 3 people d. 75 = 1 person and. 70 = 1 person f. 67 = 2 people g. 65 = 3 people h. 62 = 9 people
5	Armi Saputra	65	
6	Brent	62	
7	Cindi	67	
8	Eci	90	
9	Karisa's pedigree	65	
10	Frederich Juan BaraPadang	80	
11	Likuda Lebang's hopes	90	
12	Indra Saputra Tumading	75	
13	Jennifer	62	
14	Lenscia Meynta KondoSura	80	
15	Leysiana Mei Lukas Rexi	62	
16	Lisda Bara` Tangaran	95	
17	Listrania Thank you	62	
18	Luisfigo Ghiang Howling	80	
19	On Palallo	62	
20	`Maya Pasanda	62	
21	My	70	
22	Midel Saleppa	62	
Amoun t		1547	
Overall results		62	
Top		95	
Bottom		62	

From the data obtained, significant differences can be seen between students who have used Artificial Intelligence and those who have not utilized this technology. The results obtained after applying Artificial Intelligence show very good developments. In the explanation in the second cycle, valid data is produced and can be used as a guide for teachers to carry out the necessary follow-up actions. The results include several important aspects, including students no longer being passive during the teaching and learning process. Additionally, final gradesThe results obtained by students also showed significant improvement, with many studentsachieving good results.

Overall, teaching and learning activities that use Artificial Intelligence have proven to be effective and provide very satisfying results. This research shows that the use of Artificial Intelligence not only increases students' learning motivation in the classroom, but also at home. With the application of this technology, the learning process which was previously less than optimal has now experienced significant improvements, and student learning outcomes have been maximized. Students' enthusiasm for learning also appears to have increased, showing the positive impact of using Artificial Intelligence in education.

4. The knot

Based on the results of the discussions that have been carried out, several important points can be concluded. First, the learning process implemented has run optimally, and the evaluation results show significant improvements after the use of Artificial Intelligence. Second, student learning outcomes using Artificial Intelligence show very good achievements. Third, before the implementation of Artificial Intelligence, students' learning motivation was low, which indicated the need for changes in teaching methods.

Referring to the results obtained from the comparison between the learning process before and after the use of Artificial Intelligence, it can be seen that there has been a significant improvement. Therefore, researchers recommend that teaching staff continue to utilize Artificial Intelligence in their learning process. Apart from that, there are several things that need to be considered in implementing learning, including: first, teaching staff are advised to use varied methods so that they are not monotonous. Second, teaching staff must be innovative and creative in designing the learning process. Third, it is important for teaching staff to truly understand students' needs, according to each student's level of understanding. With these steps, it is hoped that the quality of learning will continue to improve and be more effective.

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