

The Implementation of Artificial Intelligence in Teaching and Learning Process for College Students: Benefits and Strengths

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ABSTRACT

This research was conducted at one of the universities, namely Palembang University. The aim of this research is to find out the impact of using Artificial Intelligence in the teaching and learning process for students in higher education. This research used qualitative methods with a population of 20 students from the English Language Education Study Program at Palembang University and 10 students from the English Language Education Study Program as the sample. Sample selection was taken randomly. Data was taken through questionnaires, interviews and tests. The questionnaire was carried out by giving 20 questions to students about their understanding of AI, while interviews were carried out by giving 5 questions to students one by one in turns, while the test was carried out through presentations using AI devices, namely the use of Microsoft teams and Zoom. The data obtained is processed and accumulated to obtain the final results. From the results of questionnaires, interviews and research, it was concluded that the use of AI increases students' abilities and motivation in the learning process.

ABSTRAK

Penelitian ini dilakukan di salahsatu Perguruan Tinggi, yaitu Universitas Palembang. Tujuan dari penelitian ini untuk mencari tahu dampak Penggunaan Artificial Intelligence dalam proses belajar mengajar pada mahasiswa di Perguruan Tinggi. Penelitian ini menggunakan metode kualitatif dengan Populasi 20 Mahasiswa Program Studi Pendidikan Bahasa Inggris Universitas Palembang dan 10 mahasiswa Program Studi Pendidikan Bahasa Inggris yang menjadi sample. Pemilihan sample diambil secara acak. Data diambil melalui Kuesioner, wawancara dan juga test. Kuesioner dilakukan dengan memberikan 20 Pertanyaan kepada mahasiswa tentang pemahaman mereka terhadap AI, adapun wawancara dilakukan dengan memberikan 5 pertanyaan kepada mahasiswa satu persatu secara bergilir, sedangkan test dilakukan melalui presentasi dalam menggunakan perangkat AI, yaitu Microsoft teams dan zoom. Data yang didapatkan diolah dan diakumulasikan untuk mendapatkan hasil akhirnya. Dari hasil kuesioner, wawancara dan juga penelitian disimpulkan bahwa Penggunaan AI meningkatkan kemampuan dan motivasi mahasiswa dalam proses belajar.

INTRODUCTION

Education is important to all people in this Digital Transformation. The development of Digital transformation creates some approaches which can be more valuable to support the learning process. Some educators can choose one of the techniques to be used in the teaching and learning process. The transformation of digital transformation makes a change in the world. Artificial intelligence will make the teaching and learning process more interesting and attractive. This method can be a solution to the problem of creating better conditions for students and teachers. According to McCarthy (McCarthy, 2007), one of the founders of AI, AI is the science and engineering that deals with creating intelligent machines, especially intelligent computer programs.

In the old era, lectures, talks, and discussions conducted the learning process. But these methods make the students feel bored. The lack of motivation is a crucial problem in the teaching and learning process. The teacher must find out solution to overcome this problem. Taking a note and answering questions are not interesting for them. Listening to the teachers' explanations is boring. To overcome the problem, teachers can join training sessions to get more information about methods that are suitable to overcome the problem. Atmojo's (Atmojo & Nugroho, 2020) paper delves into the challenges and instructional practices associated with learning English as a Foreign language (EFL) online in Indonesia during the COVID-19 Pandemic. The article elucidates the impact of the pandemic on English language education in Indonesia, prompting a transition to online learning. The author outlines various online teaching activities, including the utilization of digital platforms, interactive media, and mobile applications for English language learning

Through the Digital Era, Some methods come to help teachers and students in the learning process. The use of artificial intelligence is popular nowadays. Some educators involve the use of artificial intelligence in their teaching and learning process. Artificial Intelligence is a foundation of many concepts in the field of computer science and technology. These concepts are machine learning, deep learning, robotics, computer vision, internet, recommender systems, and natural language processing (Ashley, 2017; Jackson, 2019). The use of Artificial intelligence will be the solution for the teaching and learning process. Some educators hope the use of Artificial intelligence will give motivation and a fresh environment for students. The decision boundary of AI models may be informed by group-specific characteristics that are irrelevant to the decision task (Mehrabi et al., 2021)

Currently, technology companies have focused on two forms of speech recognition technologies, namely Smart Speakers and Smart Home and Mobile Device Applications (Jesus, 2019). There are some technologies which can support the teaching and learning process. Especially, in English, there are some skills, like speaking, listening, reading, and writing. These skills will be more interesting through artificial intelligence. The use of smart speakers will be relevant for listening and speaking. So, the learning process makes students enthusiastic to learn.

Based on the description above, the use of artificial intelligence has been applied to college students at Universitas Palembang. It seems very relevant to involve artificial intelligence in the teaching and learning process. The objective of this research was to find out whether

there is a significant improvement in the use of artificial intelligence in the teaching and learning process

Artificial Intelligence

Artificial intelligence is one of the methods and techniques for making the learning process more interesting and attractive. Artificial Intelligence is a broad field that encompasses various concepts in Information Technology. This research paper focuses on different technologies in AI and how they are applied to improve the performance of multiple sectors. AI helps students to get an education at any time (Kuprenko, 2020) Artificial Intelligence is a foundation of many concepts in the field of computer science and technology. These concepts are machine learning, deep learning, robotics, computer vision, internet, recommender systems, and natural language processing (Ashley, 2017; Jackson, 2019). The use of Artificial Intelligence plays an important role in all fields Such as Medical, law, Engineering, Education, and Agriculture. In Medical, the use of Artificial intelligence has an important function in diagnosing the patient and doing surgery for example halodoc application. In law, the use of online applications to consult the problem and crime for all people.

The Use of Artificial Intelligence for Medical

In Medical, The use of Artificial intelligence has been famous. All people can discuss with the doctor online. They can ask for suggestions to overcome the problem and get treatment online. Examples: Halodoc application, Apotek K-24 Application, Inhealth care application. Those kinds of applications are familiar and contribute to helping people efficiently. But of course, all people must be careful with the instructions given online. They should check the originality of the application.

The Use of Artificial Intelligence for Engineering

In Engineering, Traditional engineering tasks and responsibilities are being redefined with the advent of AI and automation. Engineers are now expected to work with advanced tools and systems that leverage AI to streamline design, analysis, and optimization processes. This shift has led to an increased focus on data-driven decision-making and the need for engineers to develop a strong foundation in data analysis and interpretation.

The Use of Artificial Intelligence for Law

There is a growing group of AI providers that offer tool kits to law firms and corporations to create their analytics programs customized to their specific needs. AI algorithms can examine past data to foresee case outcomes, litigation trends, and prospective threats. For example, there are tools that analyze all the decisions in a particular sphere, input the specific issues in a case including factors like the individual judge assigned to hear the case, and provide a prediction of likely outcomes.⁵ Another kind of analytics reviews a given piece of legal research or legal submission to a court and identifies the key relevant precedents and authorities that are missing from the research or submission. Lawyers interviewed who used these tools mention that they are useful for:

- **Analytics and Predictive:** Some virtual assistants equipped with AI capabilities can analyze legal data and help lawyers to predict case outcomes, identify trends, and make more informed strategic decisions.
- **Contract Analysis and Due Diligence:** Virtual assistants that specialize in contract analysis can review contracts, flag important clauses, and identify potential risks, speeding up due diligence processes in transactions and negotiations.

The Use of Artificial Intelligence for Education

In Education, The Use of Artificial Intelligence is popular. Some colleges apply online learning class for students. For example, zoom, Microsoft teams, Google classroom and Google meet. Those are very quit informative and effective to support online class. The Hilokal Application boosted students' confidence in speaking English Students reported increased confidence in expressing themselves in English as a result of frequent practice and exposure to a variety of speaking assignments (Agustiawati H et al.,2024)

Benefits of Artificial Intelligence

Artificial intelligence has some advantages in some fields of our life An artificial intelligence program is a program that is capable of learning and thinking. It is possible to consider anything to be artificial intelligence if it consists of a program performing a task that we would normally assume a human would perform.

While artificial intelligence has many benefits, there are also drawbacks. The benefits of AI include efficiency through task automation, data analysis for informed decisions, assistance in medical diagnosis, and the advancement of autonomous vehicles. The drawbacks of AI include job displacement, ethical concerns about bias and privacy, security risks from hacking, and a lack of human-like creativity and empathy.

METHOD

This study used the qualitative method. There are several different methods for conducting qualitative research; however, Leedy and Ormrod (2001) recommend the following five: Case studies, grounded theory, ethnography, content analysis, and phenomenological. This study has been conducted in English Language Education Study Program Universitas Palembang. There were 20 Participants as the Population and finally, there were 10 participants taken as a sample. The data was taken by questionnaire, interview, and test to the sample. The questionnaire was given to the sample to analyze students' perceptions about their understanding of the use of artificial intelligence in their teaching and learning process. There were 20 questions they answered. After answering the questionnaire, the students were given an interview with 5 questions. At last, the test was used to analyze students' performance through the task which involved artificial intelligence.

RESULT AND DISCUSSION

Based on the research conducted, It was found out that from the questionnaire, among 10 samples, they are truly enthusiastic to learn through Artificial intelligence, for example, E-Learning and using Microsoft Teams and Zoom. It is so helpful to them regarding their activity.

Table 1
Score Distribution of the Questionnaire

Category	Respondent	Percentage
Very Good	8	80%
Good	2	20%
Average	0	0
Poor	0	0
Very Poor	0	0
Total	10	100%

Based on the Interviews with 10 samples, they gave great responses about the use of artificial intelligence in the learning process. According to the sample, it makes the learning process more interesting and fun

Table 2
Score Distribution of Interview Session

Category	Respondent	Percentage
Very Good	10	100%
Good	0	0
Average	0	0
Poor	0	0
Very Poor	0	0
Total	10	100

Based on the test of 10 samples, through Microsoft teams, with speaking performance. All the samples feel relaxed and give the best performance through online tests.

Table 3
Score Distribution of Speaking Performance Test

Category	Respondent	Percentage
Very Good	6	60%
Good	4	40%
Average	0	0
Poor	0	0
Very Poor	0	0
Total	10	100

Based on the description above, the use of Artificial Intelligence (AI) was effective and significantly improve students' motivation in learning. Students feel relax, fun and enthusiastic in learning.

CONCLUSION

Artificial intelligence is a good solution for doing something fast and effectively. Working with AI makes all things efficient and easy. Artificial intelligence can be used in all fields, for example: Law, Education, Engineering, Medical, Social Science, and Agriculture. In Digital Transformation nowadays, working and studying with artificial intelligence is currently worth it. Many people use Artificial Intelligence to upgrade their skills. In some universities and colleges also the use of Artificial Intelligence plays a significant role in supporting the teaching and learning process in the classroom. Based on the re

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Declarations

Author Contribution

Hartini Agustiwati: Methodology, Data Curation, Original draft preparation.

Wiwini syafitri and Maharani: Conceptualization and Investigation, Reviewing and Editing

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Conflict of Interest

The Authors, Hartini Agustiwati, wiwin syafitri and Maharani immediately below certify that they have no affiliations with or involvement in any organization or entity with any financial interest (such as: honoraria:educational Grants: stock ownerships or other equity interest and expert testimony or patent licensing arrangement), or nonfinancial interest (such as personal or profesional relationship, affiliation, knowledge or belief) in the subject matter or material discussed in this manuscript

Additional Information

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REFERENCES

- Ashley, K. D. (2017). Artificial intelligence and legal analytics: new tools for law practice in the digital age. Cambridge University Press.
- Atmojo, A. E. P., & Nugroho, A. (2020). EFL Classes Must Go Online! Teaching Activities and Challenges during COVID-19 Pandemic in Indonesia. Register Journal, 13(1), 49–76. <https://doi.org/10.18326/rjt.v13i1.49-76>
- Jackson, P. C. (2019). Introduction to Artificial Intelligence. Courier Dover Publications.
- [16]Jesus, A. (2019, February 16). AI for Speech Recognition ± Current Companies,

Technology, and Trends. Retrieved from EMERJ: <https://emerj.com/ai-sector-overviews/aiforspeechrecognition/#:~:text=By%202019%2C%2066.6%20million%20Americans,as%20accents%20and%20background%20noise>

Kuprenko, V. (2020). Artificial Intelligence in Education: Benefits, Challenges, and Use Cases. Retrieved from Medium.com: <https://medium.com/towards-artificial-intelligence/artificialintelligence-in-education-benefits-challenges-and-use-cases-db52d8921f7a>

¹Leedy, P., & Ormrod, J. (2001). Practical research: Planning and design (7th ed.). Upper Saddle River, NJ: Merrill Prentice Hall. Thousand Oaks: SAGE Publications.

Mccarthy, J. (2007). What Is Artificial Intelligence? Retrieved from <http://wwwformal.stanford.edu/jmc/>

Mehrabi, N., Morstatter, F., Saxena, N., Lerman, K., & Galstyan, A. (2021). A survey on bias and fairness in machine learning. *ACM Computing Surveys (CSUR)*, 54(6), 1–35