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The Effect of Artificial Intelligence (AI) Use on Increasing Student Motivation in Thesis Writing

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Abstract

The development of Artificial Intelligence (AI) technology in higher education has influenced various academic practices of students, including in the process of writing theses. This study aims to analyze the effect of AI use on student motivation in completing their theses. The research used a quantitative approach with a survey design involving 35 students from the Japanese Language Education Study Program at Surabaya State University who were writing their theses. Data were collected through a questionnaire with a five-point Likert scale that measured the level of AI use and student motivation in the thesis-writing process. Data analysis was performed using descriptive statistics and simple linear regression analysis. The results showed that the level of AI usage was in the high category with an average score of 3.60, while student motivation was in the moderate-to-high category with an average score of 3.12. The regression analysis results showed that AI usage had a positive and significant effect on student motivation in completing their thesis with a coefficient of determination of 0.510. These findings indicate that the use of AI technology can serve as a learning-support tool that helps students understand academic concepts, organize research ideas, and improve efficiency in the thesis-writing process. However, student motivation is not only influenced by the use of technology, but also by various internal and external factors such as academic support, psychological conditions, and the learning environment.

Keywords: artificial intelligence, student motivation, thesis writing, higher education

1. INTRODUCTION

Advances in digital technology have brought about significant changes in teaching practices in higher education. One of the most notable developments is the emergence of

Artificial Intelligence (AI) technology based on large language models, which is capable of generating text, providing conceptual explanations, and assisting with the academic writing process. In this context, technologies like ChatGPT are increasingly being utilized by students as tools to help them understand course material, develop research ideas, and compose academic papers in a more systematic manner.

The use of artificial intelligence (AI) in students' academic activities has shown a significant increase. A report from the Higher Education Policy Institute indicates that the majority of students have used AI in their learning processes, including in the completion of graded assignments (Freeman, 2025). These findings suggest that AI is no longer viewed as an additional technology but has become an integral part of students' learning practices in higher education. This situation indicates a shift in students' academic work patterns, where technology is utilized as a tool to help meet various academic demands.

From a pedagogical perspective, the use of Artificial Intelligence in education has the potential to support students' independent learning. Technologies based on large language models can provide rapid feedback, help explain complex concepts, and support the drafting of academic texts (Perdana, 2025; Putri & Alfiansyah, 2025). Furthermore, the use of AI can also expand access to learning resources and enable the creation of more personalized learning experiences when used ethically and accompanied by adequate digital literacy (UNESCO, 2023).

On the other hand, the use of Artificial Intelligence in education also presents various challenges that need to be addressed. UNESCO (2023) emphasizes that the use of AI without adequate supervision has the potential to increase the risk of plagiarism and diminish the quality of students' critical thinking processes. Furthermore, research indicates that excessive reliance on technology based on large language models may reduce students' opportunities to develop analytical skills independently (Kasneci et al., 2023). The use of AI without adequate understanding also has the potential to encourage irresponsible academic practices. Therefore, the use of AI in higher education needs to be balanced with the strengthening of digital literacy and academic ethical awareness so that this technology can be used as a learning support tool without compromising the quality of students' thinking processes.

In the context of higher education, writing a thesis is an academic milestone that demands a high level of motivation. This process requires not only an understanding of academic material but also perseverance, consistency, and the ability to independently manage the research process. In practice, writing a thesis is often a challenge for students because they face various difficulties, such as limitations in finding research ideas, difficulties in understanding methodological concepts, and academic pressures that can affect the continuity of the learning process.

Various studies in Indonesia indicate a positive relationship between the use of Artificial Intelligence and student learning motivation. Salsabila (2023) found that the use of ChatGPT as a learning innovation can enhance students' self-directed learning motivation. Similar findings were also reported by Pratama and Nugroho (2024), who showed that the use of ChatGPT has a positive effect on learning motivation, although it is influenced by students' level of digital literacy. Additionally, Siregar (2025) found a significant influence of AI use on learning motivation in the context of higher education.

Other studies also indicate that the use of AI is associated with increased self-regulated learning, with digital literacy serving as a crucial supporting factor (Kasmiyati et al., 2025; Tasya et al., 2025). Specifically regarding senior-year students, Rahmawati et al. (2024) demonstrated that the use of AI has a significant relationship with students' motivation to complete their final projects.

Based on the above discussion, a gap can be identified between the high level of Artificial Intelligence use among students and the limited number of studies that specifically examine the impact of this technology on student motivation in the context of thesis writing, particularly at the program level. Therefore, this study aims to analyze the level of Artificial Intelligence use by students, the level of student motivation in completing their theses, and the influence of AI use on student motivation in the thesis writing process. This study is expected to contribute to enriching the literature on the integration of AI technology in higher education, particularly in relation to student learning motivation.

This study is expected to make both theoretical and practical contributions. Theoretically, this study can enrich the literature on learning motivation in the context of integrating Artificial Intelligence technology into higher education. Practically, the findings of this study can serve as a basis for faculty members and program administrators in formulating more targeted, ethical, and productive policies regarding the use of AI in the process of student thesis preparation.

2. LITERATURE REVIEW

The integration of artificial intelligence in higher education is receiving increasing attention in various academic studies. The use of this technology is not limited to information retrieval but also encompasses academic writing processes, text analysis, and automated feedback. Zawacki-Richter et al. (2019) demonstrate that the application of AI in higher education spans various fields, such as adaptive learning systems, learning data analysis, and support for the evaluation process. Furthermore, Crompton and Burke (2023) state that the use of AI in higher education can enhance learning flexibility and enable the creation of more personalized learning experiences. These findings indicate that AI has evolved into a vital component of the learning ecosystem in higher education. In addition, advancements in AI in education have also led to significant improvements in the implementation of adaptive learning systems and the analysis of learning data (Bond et al., 2024). In addition, the use of AI in higher education is also evolving in the form of intelligent learning systems capable of providing adaptive support to students throughout the learning process (Luckin et al., 2016).

The concept of motivation in this study refers to learning motivation as an internal drive that influences the direction, intensity, and persistence of students' learning behavior. Uno (2021) explains that learning motivation is related to an individual's desire to achieve learning goals and to maintain effort throughout the learning process. This perspective is reinforced by Self-Determination Theory, which states that intrinsic motivation increases when the needs for competence and autonomy are met (Ryan & Deci, 2000; Wang & Huang, 2025). In the context of technology-based learning, including the use of Artificial Intelligence, both of these needs have the potential to be met because students can obtain academic assistance flexibly, manage the learning process

independently, and enhance their perception of competence through the support provided by the system.

Learning motivation is not determined by a single variable but is influenced by various internal and external factors. Kusumawati (2024) states that internal factors include interest, learning goals, and self-regulation skills, while external factors encompass the learning environment, social support, and the implemented learning system. In the context of technology-based learning, the use of appropriate media and learning approaches, including the use of Artificial Intelligence, can serve as a stimulus that influences the dynamics of student learning motivation. Therefore, the success of using AI to enhance motivation depends not only on the technology itself but also on how it is integrated into the learning process.

Empirically, various studies indicate a positive correlation between the use of Artificial Intelligence and student learning motivation. Salsabila (2023) found that the use of ChatGPT as a learning innovation can enhance students' self-directed learning motivation. This finding is supported by Pratama and Nugroho (2024), who demonstrated that the use of ChatGPT has a positive effect on learning motivation, although its effectiveness is influenced by students' level of digital literacy. Additionally, Siregar (2025) also reported a significant influence of AI use on learning motivation within the context of higher education. Other studies indicate that the use of AI is not only related to motivation but also to improvements in self-regulated learning, with digital literacy serving as a crucial supporting factor (Kasmiyati et al., 2025; Tasya et al., 2025). Specifically, among senior students, Rahmawati et al. (2024) demonstrated that the use of AI has a significant relationship with student motivation in completing their final projects. These findings suggest that AI has the potential to serve as a supporting factor in enhancing learning motivation, although its influence is not independent and is influenced by other factors.

Although it offers various benefits, the literature also highlights the risks associated with the use of Artificial Intelligence in academic settings. UNESCO (2023) emphasizes that the use of AI without adequate digital literacy can increase the risk of plagiarism and diminish the quality of students' critical thinking processes. Kasneci et al. (2023) also state that excessive use of technology based on large language models has the potential to create dependency, which can reduce students' analytical abilities. Furthermore, Zhai (2024) indicates that while AI can enhance learning efficiency, its use must be carefully managed to prevent it from replacing the cognitive processes that students should undertake. Thus, the implementation of AI in higher education must be guided wisely so that it serves as a learning support tool without compromising the quality of academic processes.

Based on this literature review, it can be concluded that the use of Artificial Intelligence has the potential to support learning motivation, improve efficiency, and strengthen students' self-regulation skills. However, most studies still focus on general learning contexts and have not specifically examined the impact of AI use on student motivation in the thesis-writing process, particularly at the level of specific degree programs. Furthermore, existing research also tends to emphasize the benefits without deeply linking them to the context of complex academic tasks such as thesis writing. Therefore, a more specific study is needed to understand how the use of AI affects student

motivation in the context of thesis completion, thereby providing a more comprehensive picture of the role of this technology in higher education.

3. RESEARCH METHODOLOGY

The Research Methodology section describes in detail how the study was conducted. A complete description of the methods used enables the reader to evaluate the appropriateness of the research methodology.

3.1. Research Design

This study used a quantitative approach with a survey design. The research population consisted of students enrolled in the Japanese Language Education Study Program at Surabaya State University from the 2020–2022 cohort who were writing their theses.

3.2. Participants of the Study

The sampling technique used purposive sampling with the criterion of students who used AI technology in the thesis-writing process. A total of 35 respondents participated in this study. Although the number of respondents was relatively limited, the sample size was considered adequate for exploratory research with simple linear regression analysis, especially since this study focused on a specific population. This number meets the minimum threshold for small-scale exploratory quantitative research that allows correlation and simple regression analyses to be conducted (Hair et al., 2022).

3.3. Instruments

The research instrument was a closed-ended questionnaire using a 1–5 Likert scale (1 = Strongly Disagree to 5 = Strongly Agree). The instrument consisted of two main variables, namely the use of artificial intelligence (AI) as the independent variable (X) and students' motivation in working on the thesis as the dependent variable (Y). Variable X covered the dimensions of intensity and patterns of use, the benefits of AI in academic processes, negative impacts and risks, and ethical attitudes and wise use of AI. The dimensions of risk and ethics were developed by referring to the Indonesian Artificial Intelligence Ethics Framework (Kementerian Komunikasi dan Informatika Republik Indonesia, 2023). Variable Y was developed based on learning motivation indicators covering enthusiasm, self-confidence, consistency, interest, independence, and emotional stability, with reference to learning motivation theory (Uno, 2021). Conceptually, the relationship between the two variables was also strengthened by Self-Determination Theory (Wang & Huang, 2025). The instrument blueprint and item mapping are presented in Table 1.

Table 1. Operationalization of Research Variables

Variable	Item Numbers	Dimensions / Indicators
Variable X: Use of Artificial Intelligence (AI)	2–17, 26–38	Intensity and patterns of use; Benefits of AI in academic processes; Negative impacts and risks; Ethical attitudes and wise use
Variable Y: Students' Motivation in Working on the Thesis	18–25, 39	Enthusiasm; Self-confidence; Consistency; Interest; Independence; Emotional stability

Conceptually, the motivation variable refers to learning motivation theory, which emphasizes internal drive, persistence, and the direction of learning behavior (Uno, 2021). Meanwhile, the dimensions of risk and ethics in AI use refer to the Indonesian Artificial Intelligence Ethics Framework (Kementerian Komunikasi dan Informatika Republik Indonesia, 2023). The theoretical foundation was also strengthened by Self-Determination Theory (SDT), which explains that motivation increases when the needs for autonomy and competence are fulfilled (Wang & Huang, 2025). Instrument validity was tested using Pearson Product Moment correlation with the criterion of r-count > r-table at a significance level of 0.05. Reliability was tested using Cronbach's Alpha, with a value of ≥ 0.70 as an indicator of good internal consistency (Hair et al., 2022).

3.4. Data Analysis Techniques

Data were analyzed through descriptive statistics to describe the level of AI use and student motivation, a normality test as a prerequisite for parametric analysis, and simple linear regression analysis to test the effect of AI use (X) on student motivation (Y). The significance level used was 0.05, and all analyses were conducted using statistical software.

4. RESULTS

After data cleaning by removing duplicate responses based on respondents' names (with the last response retained) and applying reverse scoring to the negative statement item (item 25), 35 unique respondents met the analysis criteria. The results of the descriptive analysis show that the level of AI use in thesis writing is in the high category with an average score of 3.60. Meanwhile, student motivation in completing their thesis is in the moderate to high category with an average score of 3.12.

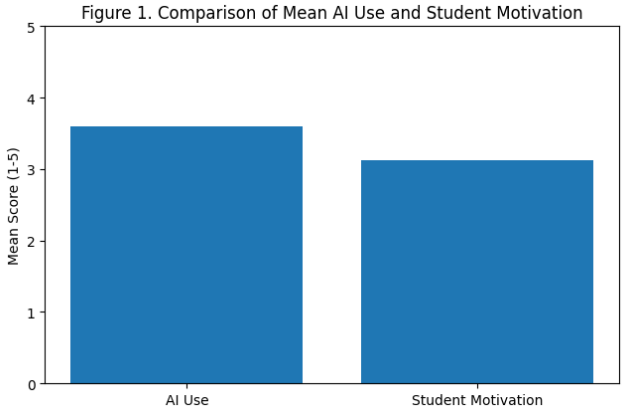

Figure 1. The Relationship between AI Use and Student Motivation

A bar-chart comparison of the mean scores of artificial intelligence (AI) use and students' motivation in working on the thesis shows that the mean score of AI use was 3.60, which is categorized as high, whereas the mean score of student motivation was 3.12. Visually, the level of AI use was higher than the level of student motivation. This difference shows that although AI has been intensively utilized in the thesis-writing process, the increase in student motivation is not entirely proportional to the intensity of AI use. This indicates that AI use is not the only factor determining students' academic motivation.

To examine the effect of AI use on student motivation, a simple linear regression analysis was conducted. The results of the analysis are presented in Table 2.

Table 2. Results of Simple Linear Regression

Variable	B	R^2	Sig.
AI Use	0.875	0.510	< 0.001

An R^2 value of 0.510 indicates that AI use explains about 51.0% of the variance in students' motivation in working on the thesis. A significance value far below 0.05 indicates that the effect is statistically significant. Therefore, the results of the analysis show that the use of AI has a positive and significant effect on student motivation in completing their thesis.

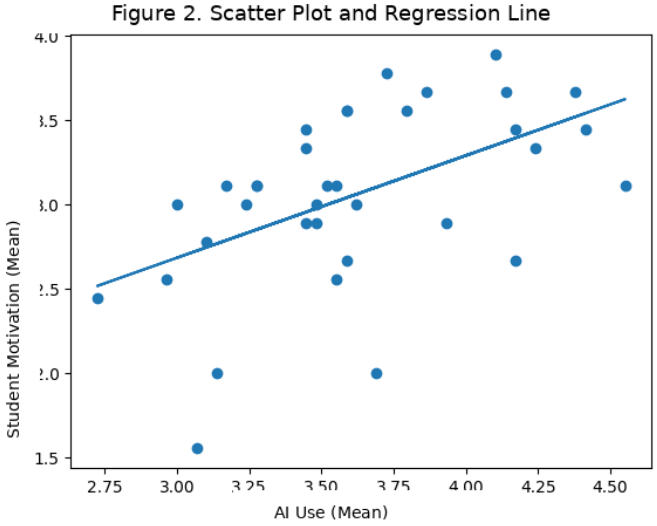

Figure 2. Scatter Plot and Regression Line of the Relationship between AI Use and Motivation

The scatter plot shows a tendency toward a positive linear relationship between AI use and student motivation. The upward regression line illustrates that an increase in AI use scores was followed by an increase in student motivation scores. The spread of data points relatively follows the direction of the regression line, indicating that the relationship between the two variables falls into the Very Strong category. The coefficient of determination, R^2 = 0.510, indicates that AI use was able to explain about 51.0% of the variance in student motivation, while the rest was influenced by other factors outside the research model. This visualization reinforces the regression analysis results showing that AI use had a positive and significant effect on student motivation (B = 0.875; $p < 0.001$).

5. DISCUSSION

The results of the study indicate that the use of Artificial Intelligence has a positive and significant impact on students' motivation to complete their theses. These findings suggest that the use of AI technology not only serves as a technical aid in the writing process but also plays a role in supporting students' psychological well-being throughout the academic process. The increase in motivation can be interpreted as a response to the ease provided by technology in helping students understand concepts, organize ideas, and manage the writing process more systematically.

The coefficient of determination (R^2 = 0.510) shows that the use of AI can explain about 51% of the variation in student motivation in completing their thesis. These results indicate that the use of AI technology has a significant contribution in supporting students' academic processes. However, there is still variation in motivation that is influenced by factors outside the research variables, such as academic support from supervisors, the learning environment, and students' self-regulation abilities.

From the perspective of learning motivation theory, these findings can be explained through Self-Determination Theory, which emphasizes the importance of fulfilling basic psychological needs, namely competence and autonomy. Ryan and Deci (2000) explain that intrinsic motivation increases when individuals feel capable of mastering the tasks at hand and have control over the learning process. In the context of this study, the use of Artificial Intelligence provides support that enables students to quickly obtain explanations of concepts, organize their writing structure more effectively, and access academic assistance flexibly. These conditions have the potential to enhance students' perception of competence while strengthening their autonomy in learning, thereby fostering increased motivation in completing their theses. This finding is also consistent with research showing that technology-based learning environments can enhance intrinsic motivation when they provide adaptive and responsive support (Ouyang et al., 2022).

In addition, easy access to information and conceptual explanations through AI technology also has the potential to reduce the obstacles often experienced by students in the process of writing their thesis. Writing a thesis is often a challenging academic stage because it involves various complex activities such as formulating research problems, reviewing literature, developing methodologies, and analyzing data. In such situations, AI technology can help students obtain preliminary explanations of research concepts or academic writing structures, thereby making the learning process more efficient.

The findings of this study align with various previous studies indicating that the use of Artificial Intelligence in higher education can contribute to increased student motivation and engagement in learning. Research by Salsabila (2023) and Pratama and Nugroho (2024) shows that the use of ChatGPT has a positive effect on learning motivation, although this is influenced by students' level of digital literacy. These findings are also supported by international research showing that AI technology can improve learning efficiency and assist students in managing complex academic tasks. Dwivedi et al. (2023) explain that generative AI has the potential to support the learning process by providing quick and adaptive assistance. Furthermore, Zawacki-Richter et al. (2019) demonstrate that the implementation of AI in higher education contributes to personalized learning and improved learning experiences. Thus, the results of this study reinforce previous findings that AI can serve as a significant tool in enhancing students' learning motivation. In line with this, other studies have shown that the use of generative AI in higher education can enhance learning efficiency and help students manage complex academic tasks (Farrokhnia et al., 2024; Chan & Hu, 2023).

In the context of this study, the use of AI can also help students overcome initial obstacles in the thesis-writing process, such as difficulty finding research ideas or structuring their writing. With this assistance, students can start the writing process more

quickly, thereby increasing their confidence in completing their thesis. This increase in confidence is an important indicator of student motivation to learn.

Nevertheless, the results of this study should be interpreted with caution. Uncontrolled use of Artificial Intelligence has the potential to create dependency, which may diminish students' critical thinking skills. Holmes et al. (2019) emphasize that AI technology in education should serve as a learning support tool, not as a substitute for students' cognitive processes. Furthermore, Zhai (2024) indicates that excessive use of AI without critical reflection can hinder the development of analytical skills. Therefore, the positive relationship between AI use and motivation in this study should be understood as the potential support offered by technology, not as the sole factor determining students' academic success. This suggests that the use of AI must be balanced with the development of students' reflective skills so as not to compromise the quality of the learning process (Tlili et al., 2023). In addition, the use of AI technology in learning must be balanced with a focus on self-regulation to ensure that it does not diminish students' cognitive engagement in the learning process (Aleven et al., 2016).

In addition, the use of Artificial Intelligence in education must also take academic ethics into account. The use of this technology must be guided in such a way that it does not compromise academic integrity and continues to encourage students to develop critical and independent thinking skills. Therefore, the use of AI in higher education must be accompanied by a thorough understanding of its limitations. Higher education institutions play a crucial role in providing clear guidelines regarding the ethical use of AI in academic activities. Thus, AI technology can be optimally utilized as a learning support tool without compromising the quality of students' academic processes.

6. CONCLUSION

This study demonstrates that the use of Artificial Intelligence has a positive and significant impact on students' motivation to complete their theses. These findings suggest that the use of AI technology not only serves as a technical aid in the academic writing process but also plays a role in supporting students' psychological well-being, particularly in enhancing their perceived competence and academic autonomy.

Conceptually, the results of this study reinforce the view that the integration of Artificial Intelligence-based technology into learning can support students' needs for autonomy and competence, which ultimately contributes to increased learning motivation. However, the use of AI cannot be positioned as the sole determining factor of motivation, as motivation remains influenced by various other internal and external factors.

In practical terms, these findings have implications for faculty members and program administrators in guiding the use of AI as a productive and ethical tool to support learning. Higher education institutions need to establish clear guidelines regarding the use of AI in academic activities, particularly in the thesis writing process, so that the technology can be utilized optimally without compromising the quality of students' critical thinking. Additionally, strengthening digital literacy and academic ethics is crucial to ensure that the use of AI remains within the bounds of responsible academic practice.

Further research is recommended to develop a more comprehensive model by considering other variables, such as digital literacy, self-regulated learning, and academic environmental factors, so that the role of Artificial Intelligence in higher education can be examined in greater depth.

REFERENCES

Aleven, V., McLaughlin, E. A., Glenn, R. A., & Koedinger, K. R. (2016). *Instruction based on adaptive learning technologies*. In R. E. Mayer & P. A. Alexander (Eds.), Handbook of research on learning and instruction (2nd ed., pp. 522–560). Routledge.

Aleven, V., Roll, I., McLaren, B., & Koedinger, K. (2017). Help helps, but only so much: Research on help seeking with intelligent tutoring systems. *International Journal of Artificial Intelligence in Education*, 27(1), 205–223.

Bond, M., Khosravi, H., De Laat, M., Bergdahl, N., Langensiepen, M., & Siemens, G. (2024). Generative artificial intelligence in higher education: A global perspective. *International Journal of Educational Technology in Higher Education*, 21. https://doi.org/10.1186/s41239-024-00479-1

Chan, C. K. Y., & Hu, W. (2023). Students' voices on generative AI: Perceptions, benefits, and challenges in higher education. *Education and Information Technologies*. https://doi.org/10.1007/s10639-023-12149-0

Crompton, H., & Burke, D. (2023). Artificial intelligence in higher education: The state of the field. *Computers and Education: Artificial Intelligence*, 4, 100131.

Dwivedi, Y. K., Hughes, L., Ismagilova, E., Aarts, G., Coombs, C., Crick, T., Duan, Y., Dwivedi, R., Edwards, J., Eirug, A., Galanos, V., Ilavarasan, P. V., Janssen, M., Jones, P., Kar, A. K., Kizgin, H., Kronemann, B., Lal, B., Lucini, B., ... Williams, M. D. (2023). So what if ChatGPT wrote it? Multidisciplinary perspectives on opportunities, challenges and implications of generative conversational AI for research, practice and policy. *International Journal of Information Management*, 71, 102642. https://doi.org/10.1016/j.ijinfomgt.2023.102642

Farrokhnia, M., Banihashem, S. K., Noroozi, O., & Wals, A. (2024). A SWOT analysis of ChatGPT in higher education. *Innovations in Education and Teaching International*, 61(3), 460–474. https://doi.org/10.1080/14703297.2023.2195846

Freeman, J. (2025). Student Generative AI Survey 2025. Higher Education Policy Institute.

Hair, J. F., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., & Ray, S. (2022). *Partial Least Squares Structural Equation Modeling* (PLS-SEM) Using R. Springer.

Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign.

Kasneci, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., Hüllermeier, E., Krusche, S., Kutyniok, G., Michaeli, T., Pfeffer, J., Poquet, O., Sailer, M., Schmidt, A., Seidel, T., & Kasneci, G. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274.

Kementerian Komunikasi dan Informatika Republik Indonesia. (2023). *Etika Kecerdasan Artifisial di Indonesia*. Jakarta: Kementerian Komunikasi dan Informatika.

Kusumawati, A. A. (2024). Self regulation dalam meningkatkan motivasi belajar peserta didik. *Jurnal Pendidikan*, 13(2), 242–247.

Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). *Intelligence unleashed: An argument for AI in education*. Pearson.

Ouyang, F., Zheng, L., Jiao, P., & Moore, A. (2022). Artificial intelligence in online higher education: A systematic review. *Education and Information Technologies*, 27, 7893–7925. https://doi.org/10.1007/s10639-022-10925-9

Perdana, D. A. (2025). Integrasi large language models dalam pembelajaran analisis teks sastra Arab di perguruan tinggi. *Jurnal Identik*, 2(2), 32–40.

Pratama, A., & Nugroho, R. (2024). Pengaruh ChatGPT dan literasi digital terhadap motivasi belajar mahasiswa. *Jurnal Pendidikan dan Pembelajaran*, 8(1), 45–56.

Putri, S. N., & Alfiansyah. (2025). Implementasi pembelajaran adaptif berbasis bahasa alami untuk meningkatkan pencapaian belajar di sekolah dasar. *Journal Creativity*, 3(2), 378–389.

Rahmawati, D., Putri, N., & Lestari, A. (2024). Hubungan penggunaan ChatGPT terhadap motivasi belajar mahasiswa tingkat akhir. *Research Journal of Education*, 5(1), 55–63.

Refaldi, D. A. (2024). Pengaruh generative AI terhadap kemampuan berpikir kritis mahasiswa. *Jurnal Sistem Informasi Akademik*, 3(3), 9–19.

Ryan, R. M., & Deci, E. L. (2000). Intrinsic and extrinsic motivations: Classic definitions and new directions. *Contemporary Educational Psychology*, 25(1), 54–67. https://doi.org/10.1006/ceps.1999.1020

Salsabila, N. (2023). ChatGPT sebagai inovasi pembelajaran untuk meningkatkan motivasi belajar mandiri mahasiswa. *Jurnal Pendidikan*, 18(2), 125–134.

Siregar, M. (2025). Pengaruh penggunaan ChatGPT terhadap motivasi belajar mahasiswa fakultas ekonomi. *Jurnal Literasi Ekonomi dan Bisnis*, 3(1), 41–50.

Tasya, C. H., Sangka, K. B., & Octoria, D. (2025). Pengaruh pemanfaatan Artificial Intelligence terhadap motivasi belajar mahasiswa dengan literasi digital sebagai variabel moderating. *Jurnal Pendidikan Ekonomi*, 13(2), 153–165.

Tlili, A., Shehata, B., Adarkwah, M. A., Bozkurt, A., Hickey, D. T., Huang, R., & Agyemang, B. (2023). What if the devil is my guardian angel: ChatGPT as a case study of using chatbots in education. *Smart Learning Environments*, 10, 15. https://doi.org/10.1186/s40561-023-00237-x

UNESCO. (2023). *Guidance for Generative AI in Education and Research*. UNESCO Publishing.

Uno, H. B. (2021). *Teori motivasi dan pengukurannya*. Jakarta: Bumi Aksara.

Wang, X., & Huang, Y. (2025). Self-determination theory in AI-supported learning environments. *International Journal of Educational Technology in Higher Education*, 22(1).

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education: Where are the educators?. *International Journal of Educational Technology in Higher Education*, 16, 39. https://doi.org/10.1186/s41239-019-0171-0

Zhai, X. (2024). *Exploring the impact of ChatGPT: Conversational AI in education*. Frontiers in Education, 9.