

THE EFFECT OF USING ARTIFICIAL INTELLIGENCE (AI) AND EMOTIONAL INTELLIGENCE ON TEACHER PERFORMANCE

MARDIA HI RAHMAN

FACULTY OF TEACHER TRAINING AND EDUCATION, UNIVERSITAS KHAIRUN, INDONESIA,
EMAIL: mardiah.rahman1@gmail.com

Abstract

This research aims to evaluate the effect of using Artificial Intelligence (AI) and Emotional Intelligence (EI) on teacher performance. Technological developments in the world of education are increasingly rapid, while emotional factors remain an important element in successful learning interactions. The method used in this research is a quantitative approach with survey techniques, involving 98 teachers from SMA Negeri 1 and SMA Negeri 7 South Halmahera. The instrument used is a questionnaire that has gone through validity and reliability testing. For data analysis, multiple linear regression techniques were used. The research results show that the use of artificial intelligence and emotional intelligence has a positive and significant effect on teacher performance, both partially and simultaneously. The use of AI supports teacher work effectiveness in planning, implementing and evaluating learning, while emotional intelligence contributes to teachers' ability to build interpersonal relationships, manage stress and create a positive learning climate. These findings confirm that the combination of mastery of technology and emotional intelligence is an important factor in improving teacher professionalism and quality of work.

Keywords: Artificial Intelligence, Emotional Intelligence, Teacher Performance.

INTRODUCTION

Rapid developments in the field of technology, especially in artificial intelligence (AI), have had a significant impact on the world of education and changed the dynamics of human social interaction. AI has been developed in a way that allows its use in various fields and sectors, including education, where it serves as an aid in the learning process. This technology can be used to compile teaching materials, analyze student learning outcomes, and evaluate teacher performance. It is hoped that the use of AI will increase the efficiency and effectiveness of teachers in carrying out their duties. By integrating and applying AI in the classroom, the learning process will become more effective, supporting both teachers and students in facing existing learning challenges (Vieriu, A. M & Petrea, G. 2025).

Technological advances, particularly in artificial intelligence (AI), have brought significant transformation to the world of education. AI offers a variety of innovative solutions that can improve the quality of learning, from personalizing materials to developing interactive teaching methods. The integration of AI in Education accelerates adaptation to the needs of the digital era and opens up new opportunities to create more effective, inclusive and engaging learning experiences. Technological advances have a significant impact on learning because they can be used to support the teaching and learning process effectively, and are needed to meet the needs of teachers and students (Chang et al., 2022; Rokhayani, A., et.al., 2022)

Along with recent technological developments, many online learning platforms have been developed to improve the teaching and learning process to make it more satisfying and organized (Sivananda, P., & Abdul Aziz, A. 2021). Learning by utilizing technology can change the learning environment to be active because students not only try to solve problems but the most important thing is that students are aware of their own problems. Through learning with the use of technology, students not only learn, but have an active role in the learning process. Learning content supported by animation, audio and video can cause students to learn systematically, also supporting an active and fun learning process. Learning using technology makes a big contribution to lifelong learning (Cope et al., 2020).

The role of teachers as the main pillar in education is currently faced with a variety of different challenges that require teachers to be able to adapt to technological innovations that continue to develop. The use of artificial intelligence in the learning process requires teachers to have sufficient digital skills, the ability to think critically about information sourced from cyberspace, as well as technical skills to operate various AI-based devices and platforms. teachers' skills in using AI and the role of teachers in AI development need to be trained (Langran et al., 2020; Seufert et al., 2020) The application of this technology can help improve teacher performance in lesson planning, implementation, and evaluation of the learning process.

Rapid technological advances cannot replace the role of teachers in the learning process. One factor that cannot be replaced by technology in the teacher learning process is emotional intelligence, which refers to the teacher's ability

to recognize, manage and understand one's own emotions in a positive way in social interactions. Teachers who have high emotional intelligence will be able to build a supportive learning atmosphere, establish good relationships with students and colleagues and handle work stress more wisely. Educators who successfully regulate their emotions are usually more tolerant, sensitive, and inspiring when teaching, which in turn can improve student academic achievement and performance (Zakaria, Z., et al. 2024).

Integration between the ability to use AI and emotional intelligence is an important factor that supports improving teacher performance in the current digital era. However, mastery of technology without emotional intelligence can result in inflexible and less humane relationships in the learning process. On the other hand, emotional intelligence without the ability to adapt to technology can make teachers lag behind current developments. Teachers who are able to integrate technology appropriately and have good emotional intelligence have the potential to show optimal performance in learning. Various similar studies have been conducted, including (Slimi, Z., 2023; Erbas, I., & Maksuti, E. (2024)) explaining that the use of AI technology will help teacher performance, especially in planning learning, implementing and evaluating learning. Furthermore (Fu, L, 2025; Wang, L. 2022), found that emotional intelligence and AI have a strong relationship to improve teachers' abilities in the learning process in order to improve student achievement.

THEORETICAL STUDIES

Teacher Performance

Teacher performance is considered good, which can be seen from the teacher's success in implementing learning well, which ultimately produces quality graduates, namely graduates who have knowledge, skills and attitudes (Lamatenggo, N., et. al. 2023). Teachers with good performance are needed to produce quality graduates. For this reason, teachers are required to be able to keep up with changes that occur in line with the needs of prospective graduates who must be relevant to the demands of the world of work or the industrial world. Thus, teachers have a vital role as the main implementers of achieving educational goals and must pay attention to their professional identity in carrying out their duties. Teachers must understand the concepts of identity attribution, projection, development and transformation (Berbegal et al., 2024).

Professional teacher performance is a series of tasks or behaviors carried out with full politeness, responsibility, empathy and compassion to fulfill job requirements or achieve organizational goals (Widodo, W, et. Al., 2020). To state that teacher performance is good, the principal needs to assess teacher performance using various methods. This is done as a basis for an organization (school) in making strategic decisions and increasing the overall effectiveness of teacher work. Teacher performance can be measured using three main indicators, namely mastery of the field of knowledge, delivery of teaching material to students through various methods, strategies or learning models, and the teacher's ability to solve students' actual problems, help develop students' interests, talents and solve educational problems inside and outside the classroom, with respectful, ethical and consistent actions (Makovec, D, 2020).

Teacher performance is a major and central issue in educational reform and school development. Therefore, teacher performance is a key element in the success of school effectiveness and is very important (Özgenel, M. 2019). . Teacher performance in schools refers to the behavior of teachers in carrying out their learning tasks starting from planning, implementing, evaluating and guiding students in the learning process. Apart from that, teacher performance can also be measured by how competent the teacher is, because a teacher cannot be said to be performing well if his competence is low (M.H. Rahman, 2014; A. Hakim, 2015; W. Maba, et.al, 2018; M.H. Rahman, et.al.2025).

Artificial Intelligence (AI)

Artificial intelligence (AI) is now playing a major role in improving student academic achievement by providing customized learning experiences to meet each student's learning needs. Through the use of AI-based media, students receive targeted support, receive content or material that is relevant to real life, as well as appropriate feedback, which overall supports better academic achievement (Kamalov, F. et.al. 2023; Kabudi, T. et.al., 2021).

Technological advances with Artificial Intelligence (AI) are very necessary to change the way teachers carry out learning in order to improve student learning experiences, improve the quality of learning, and simplify administrative tasks (Chetry, 2024; Tang, 2024). The use of AI platforms in learning will provide a learning experience for students because they can be tailored to individual student needs, which in turn increases engagement and academic achievement (Onezi-Ozigagun et al., 2024; Kaur et al., 2024). This system analyzes performance data to design appropriate learning paths, adapting the material to each student's pace and level of understanding (Onezi-Ozigagun et al., 2024). Additionally, AI also supports the creation of interactive content, which creates a more dynamic and student-focused learning environment (Tang, 2024).

Emotional Intelligence

Emotional intelligence (EI) is an individual's ability to recognize, understand, manage and use emotions effectively, both towards themselves and others. Emotional intelligence refers to a set of non-cognitive abilities and skills that enable individuals to recognize and monitor their own and other people's emotions. This has been proven to have a positive relationship with self-efficacy, mental health, performance at work, and positive development in adolescents.

Various studies have shown that emotional intelligence has good predictive capabilities for resilience, indicating that resilient individuals tend to better understand and manage their emotions, which is also associated with higher levels of emotional intelligence. (Martanto, R. et.al., 2022; Pérez-Fuentes MC, et.al., 2019; Wu RS, et.al., 2022; Wen Y, et.al., 2020; Aouani H, et.al., 2022).

METHODS

The technique used in this research is a survey with quantitative research methods. In this research, sampling was carried out using purposive sampling to select State High School teachers on Bacan Island, South Halmahera Regency. This method was chosen to ensure that the sample was in accordance with the research focus on the use of artificial intelligence and emotional intelligence on teacher performance. This research aims to analyze teacher performance which is influenced by the use of artificial intelligence and teacher emotional intelligence. The instrument used to obtain teacher performance data looks at pedagogical competence and teacher professional competence which was adopted from research by Putra, S.D. et.al. (2022). The artificial intelligence instrument was adopted from the research of Annika Bush, (2025), while the emotional intelligence instrument was adopted from the research instrument of Palmer, B. R, et.al, (2009). This research was carried out in February - April 2025 at the public high schools selected in this research, namely Public High School 1 and Public High School 7, South Halmahera with a total sample of 98 teachers. Data collection was carried out by sending a questionnaire via Google Form to all teachers in the two schools used as research samples. Data analysis used SPSS version 23 software.

RESULTS AND DISCUSSION

Result

The research sample of 98 teachers had different educational backgrounds, ages and years of service as shown in table 1.

Table 1 Respondent Profile

Respondent Profile	Criteria	Percentage
Age	< 30 Years	12,24 %
	30 – 40 Years	42,86 %
	41 – 50 Years	32,65 %
	> 50 years	12,24 %
Working Time	< 5 years	8.16 %
	5 – 10 Years	36,73 %
	11 – 20 years	40,82 %
	>20 Years	14,29 %
Education	Masters	89,80 %
	Magister	10,20 %
	Doctor	0

From the table it can be seen that the average number of respondents was of productive age, namely 55.10% (age > 30 years - 40 years), with a productive work period of 85.71 -% (work period < 5 years - 20 years) with the highest level of education being a bachelor's degree (89.80%).

The data obtained before statistical testing is carried out is first carried out with a data normality test to assess whether the data obtained is normally distributed or not. Data normality analysis was carried out using Kolmogrov-Smirnov in SPSS version 23 and obtained a significance of 0.227 which shows that the data is normally distributed, because the test results are greater than the probability value of 0.05. Next, an analysis of hypotheses 1, 2, and 3 was carried out using simple linear regression and multiple regression in SPSS version 23 and the results of the analysis were presented in table 2.

Table 2 Hypothesis Test Results

Hypothesis	Variable	R ²	F	Beta	t _{hand}	themselves	Conclusion
H ₁	Artificial Intelligence → Teacher Performance	0,513	101,196	0,976	10.060	0.000	There is Influence
H ₂	Emotional Intelligence of → Teacher Performance	0,551	117,647	0,792	10,847	0.000	
H ₃	Artificial Intelligence and Emotional Intelligence of → Teacher Performance	0,684	102,915	-	-	0,000	

DISCUSSION

1. Utilization of Artificial Intelligence on Teacher Performance

Statistical analysis for Hypothesis 1 shows that the use of Artificial Intelligence has a positive and significant effect on Teacher Performance, with an F value of 101.196, a t value of 10.060, and a p value <0.05 (H_1 is accepted). with an R-squared value of 0.513. The R-squared value shows that the use of artificial intelligence has an influence of 51.3% and other factors that influence teacher performance are 48.7%. These findings show that the better teachers utilize artificial intelligence in their learning process, the more teacher performance will improve. This is because teachers involve students in the learning process, students will better understand the subject matter provided. Apart from that, by utilizing various technology platforms, teachers will be more creative in designing and implementing learning.

The findings of this research are in line with research conducted by Celik, I, et.al., (2022) which found that the use of artificial intelligence is increasing, because AI has become popular in education, especially in the learning process which has resulted in increased teacher performance. Another research conducted by Al Melweth, H. M. et.al., (2023) explains that artificial intelligence has a positive correlation with teaching competence, which means that the use of AI will increase teacher competence, especially in pedagogical skills. The indicator for measuring teacher performance is teacher competence, so it can be said that if teacher competence increases it will affect overall teacher performance. Sen, A. (2023) in his research results recommends utilizing AI as a learning tool, but still prioritizing the role of teachers as educators and implementing AI ethically and inclusively. Tanveer, S.et.al., (2024) explains in the results of his research that Artificial Intelligence (AI) is used as a learning medium that can significantly increase student engagement, and is a medium for teachers to improve teaching methods which in turn will increase teacher competence and performance.

2. Teachers' Emotional Intelligence on Teacher Performance

Statistical analysis of hypothesis 2 shows that teacher emotional intelligence has a positive and significant effect on teacher performance. This can be seen from the statistical test results obtained with an F value of 117.647, a t value of 10.847 and a significance value of $p < 0.05$ (H_1 is accepted) and an R-squared value of 0.551, which means that the influence of teacher emotional intelligence on teacher performance is 55.10% and the remaining 44.90% is influenced by other factors outside of emotional intelligence. With these results, it can be said that teachers' emotional intelligence has an important role in determining the success of teachers' work, in other words, the higher the emotional intelligence a teacher has, the better his performance will be in carrying out professional tasks. Teachers who are able to manage emotions well will find it easier to create a comfortable learning atmosphere, build positive relationships with students, and remain professional even under pressure. All of these things will contribute directly to improved performance.

The results of this research are in line with research conducted by Khassawneh, O., et.al. (2022) concluded that emotional intelligence has a significant impact on teacher behavior, which in turn increases student success as evidence of successful learning and performance. EI competencies help bridge the gap between teachers' knowledge, skills and perspectives, ultimately producing creative educators. Furthermore, Sekreter, G., (2019) explained that emotional intelligence in learning influences the productivity of teacher performance. Emotional intelligence is very important for teachers because the learning process involves emotional and intellectual effort. Therefore, a teacher needs to understand students' emotional states and the causes of their behavior to create an ideal learning environment that encourages positive social interactions, active engagement, and strong motivation to learn. Ahmad, K.I, et.al (2021) concluded that teacher performance is significantly influenced by emotional intelligence. GTeachers need to develop the ability to plan learning activities effectively by using strategies that are oriented to the characteristics of each student and using various methods, techniques and instruments in learning assessment to support their performance. Teacher emotional intelligence is positively correlated with teacher performance, but in the learning process teachers are required to have creativity (Su, H., et.al. 2022; Lu, Q and Ishak, N.A. 2022). Teachers' emotional intelligence has a significant impact on the teaching and learning process, and has been proven to influence students' learning behavior, engagement and academic performance (Latif, H., Majoka, M. I., & Khan, M. I. (2017).

3. Utilization of Artificial Intelligence and Teacher Emotional Intelligence on Teacher Performance

Statistical analysis of hypothesis 3 concludes that the use of artificial intelligence and teacher emotional intelligence together has a positive and significant effect on teacher performance. This can be seen from the statistical test results obtained with an F value of 102.915, and a significance value of $p < 0.05$ (H_1 is accepted) and an R-squared value of 0.684, which means that the use of artificial intelligence and teacher emotional intelligence together has an effect on teacher performance by 68.40% and the other 31.60% is influenced by factors outside artificial intelligence and emotional intelligence. With these results it can be said that artificial intelligence and emotional intelligence of teachers have an important role in determining the success of teachers' work, in other words teacher performance can increase if these two factors are developed and utilized optimally. The combination of teachers' abilities to utilize artificial intelligence (AI) with emotional intelligence forms teachers who are productive, empathetic and relevant to

the challenges of the times. These two aspects complement each other and together can improve the overall quality and effectiveness of teacher performance.

The results of this research are in line with research conducted by Efendi, S., & Nugroho, K. U. Z. (2019) explains that improving teacher performance is done by improving emotional intelligence. Artificial intelligence and emotional intelligence play a very important role in the development of creative thinking. Emotional intelligence allows a person to increase emotional effectiveness and supports a work environment that is conducive to creativity. Artificial intelligence and emotional intelligence have a positive effect on teacher performance, because they can help with administrative and learning tasks. Increasing artificial intelligence will improve teacher performance, but it is also necessary to increase emotional intelligence (Susanto, A. H., & Abadi, I. B. G. S. 2021; Wu, Y, et.al., 2019; Oh, S. Y., & Ahn, Y. 2024)

CONCLUSION

The use of artificial intelligence (AI) by teachers contributes to improving performance, especially in teaching efficiency and innovation. Teachers who are able to use AI technology show higher performance and have the ability to adapt learning to student needs. Emotional intelligence (EI) has a positive and significant effect on teacher performance, which means that teachers who have the ability to recognize, manage and express emotions well tend to be better able to build healthy relationships with students, colleagues and parents, and face work pressure more calmly and professionally which has a direct impact on the quality of performance in the learning process. Artificial intelligence and emotional intelligence together have a greater impact on teacher performance than teachers with only one intelligence in this study. Emotional intelligence supports the relational and emotion management aspects of teaching, while artificial intelligence supports efficiency and innovation.

REFERENCES

1. Adnan Hakim. (2015). Contribution of Competence Teacher (Pedagogical, Personality, Professional Competence and Social) On the Performance of Learning. *The International Journal Of Engineering And Science*4(2), 1–12.
2. AL-Qadri, A. H., Zhao, W., Li, M., Al-khresheh, M., & Boudouaia, A. (2022). Emotional Intelligence Scale for International Students: A Proposal for a Developed Version. *Frontiers in Education*, 7(April), 1–12. <https://doi.org/10.3389/educ.2022.853303>
3. AL Melweth, H. M., Mahfouz Mohammed Al Madawi, A., Safar Alkahtani, A., & Badawy Mohamed Badawy, W. (2023). The Role of Artificial Intelligence Technologies in Enhancing Education and Fostering Emotional Intelligence for Academic Success. S9, 863–874. <https://doi.org/10.59670/ml.v20iS9.4868>
4. Aouani, H., Slimani, M., Ghouili, H., Tod, D., Znazen, H., Bragazzi, N. L., Hamrouni, S., Chtara, M., & Elloumi, M. (2022). Emotional Intelligence: A Systematic Comparison Between Young Athletes and Non-athletes, Gender and Age Groups. *International Journal of Sport Studies for Health*, 5(1). <https://doi.org/10.5812/intjssh-128656>
5. Celik, I., Dindar, M., Muukkonen, H., & Järvelä, S. (2022). The Promises and Challenges of Artificial Intelligence for Teachers: a Systematic Review of Research. *TechTrends*, 66(4), 616–630. <https://doi.org/10.1007/s11528-022-00715-y>
6. Chetry, D. K. K. (2024). Transforming Education: How AI is Revolutionizing the Learning Experience. *International Journal of Research Publication and Reviews*, 5(5), 6352–6356. <https://doi.org/10.55248/gengpi.5.0524.1277>
7. Damanik, J., & Widodo, W. (2024). Unlocking Teacher Professional Performance: Exploring Teaching Creativity in Transmitting Digital Literacy, Grit, and Instructional Quality. *Education Sciences*, 14(4). <https://doi.org/10.3390/educsci14040384>
8. Efendi, S., & Nugroho, K. U. Z. (2019). Effect of Self Efficacy and Emotional Intelligence on Teacher Performance. 295(ICETeP 2018), 141–143. <https://doi.org/10.2991/icetep-18.2019.34>
9. Erbas, I., & Maksuti, E. (2024). The Impact of Artificial Intelligence on Education. *International Journal of Innovative Research in Multidisciplinary Education*, 03(04). <https://doi.org/10.58806/ijirme.2024.v3i4n01>
10. Esterlina, & Hariani, L. S. (2021). Teacher Performance. *Proceedings of the 2nd Annual Conference on Social Science and Humanities (ANCOSH 2020)*, 542(Ancosh 2020), 331–334. <https://doi.org/10.2991/assehr.k.210413.076>
11. Fu, L. (2025). The role of STEM teachers' emotional intelligence and psychological well-being in predicting their artificial intelligence literacy. *Acta Psychologica*, 253(December 2024). <https://doi.org/10.1016/j.actpsy.2025.104708>
12. Kabudi, T., Pappas, I., & Olsen, D. H. (2021). AI-enabled adaptive learning systems: A systematic mapping of the literature. *Computers and Education: Artificial Intelligence*, 2(December 2020). <https://doi.org/10.1016/j.caeai.2021.100017>
13. Kamalov, F., Santandreu Calonge, D., & Gurrib, I. (2023). New Era of Artificial Intelligence in Education:

- Towards a Sustainable Multifaceted Revolution. *Sustainability (Switzerland)*, 15(16), 1–27.
<https://doi.org/10.3390/su151612451>
14. Kaur, S., Budhraj, K., Pahuja, A., Nayyar, V., & Saluja, S. (2024). Leveraging artificial intelligence in education: Enhancing learning experience. *Ethical AI and Data Management Strategies in Marketing*, 125–140.
<https://doi.org/10.4018/979-8-3693-6660-8.ch010>
 15. Khassawneh, O., Mohammad, T., Ben-Abdallah, R., & Alabidi, S. (2022). The Relationship between Emotional Intelligence and Educators' Performance in Higher Education Sector. *Behavioral Sciences*, 12(12).
<https://doi.org/10.3390/bs12120511>
 16. Lamatenggo, N., Ansar, A., Arwildayanto, A., & Sumar, W. (2023). The Role of Teachers' Teaching Performance in Bolangitang Barat Elementary School: Competency, Motivation, and Teacher-Training Education. *AL-ISHLAH: Journal of Education*, 15(4), 5408–5417. <https://doi.org/10.35445/alishlah.v15i4.4473>
 17. Latif, H., Majoka, M. I., & Khan, M. I. (2017). Emotional intelligence and job performance of high school female teachers. *Pakistan Journal of Psychological Research*, 32(2), 333–351.
 18. Li, Y., & Zhang, L. (2023). Exploring the relationships among teacher–student dynamics, learning enjoyment, and burnout in EFL students: the role of emotional intelligence. *Frontiers in Psychology*, 14(January), 1–15.
<https://doi.org/10.3389/fpsyg.2023.1329400>
 19. Lu, Q., & Ishak, N. A. (2022). Teacher's Emotional Intelligence and Employee Brand-Based Equity: Mediating Role of Teaching Performance and Teacher's Self-Efficacy. *Frontiers in Psychology*, 13(May), 1–12.
<https://doi.org/10.3389/fpsyg.2022.901019>
 20. Maba, W. (2018). Conducting assessment instrument models for teacher competence, teacher welfare as an effort to enhance education quality. *International Research Journal of Management, IT and Social Sciences*, 5(3), 46–52.
<https://doi.org/10.21744/irjmis.v5i3.667>
 21. Makovec, D. (2020). Danijela Makovec The Dimensions of Teacher's Professional Development. 69(March), 106–125.
 22. Martanto, R., Sudira, P., Mutohhari, F., Nurtanto, M., & Astuti, M. (2022). the Effect of Self-Efficacy and Emotional Intelligence on Project-Based Learning in Vocational Education. *Kwangsan: Journal of Educational Technology*, 10(1), 15. <https://doi.org/10.31800/jtp.kw.v10n1.p15--29>
 23. Oh, S. Y., & Ahn, Y. (2024). Exploring Teachers' Perception of Artificial Intelligence: The Socio-emotional Deficiency as Opportunities and Challenges in Human-AI Complementarity in K-12 Education. *Lecture Notes in Computer Science (Including Subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 14830 LNAI, 439–447. https://doi.org/10.1007/978-3-031-64299-9_41
 24. Oseremi Onesi-Ozigagun, Yinka James Ololade, Nsiong Louis Eyo-Udo, & Damilola Oluwaseun Ogundipe. (2024). Revolutionizing Education Through Ai: a Comprehensive Review of Enhancing Learning Experiences. *International Journal of Applied Research in Social Sciences*, 6(4), 589–607.
<https://doi.org/10.51594/ijarss.v6i4.1011>
 25. ÖZGENEL, M. (2019). the Role of Teacher Performance in School Effectiveness. *International Journal of Education Technology and Scientific Researches*, 4(10), 417–434. <https://doi.org/10.35826/ijetsar.42>
 26. Palmer, B. R., Stough, C., Harmer, R., & Gignac, G. (2009). Assessing Emotional Intelligence. *May*, 103–117.
<https://doi.org/10.1007/978-0-387-88370-0>
 27. Pérez-Fuentes, M. D. C., Jurado, M. D. M. M., Martín, A. B. B., & Linares, J. J. G. (2019). Family functioning, emotional intelligence, and values: Analysis of the relationship with aggressive behavior in adolescents. *International Journal of Environmental Research and Public Health*, 16(3). <https://doi.org/10.3390/ijerph16030478>
 28. Putra, S. D., Borman, R. I., & Arifin, G. H. (2022). Assessment of Teacher Performance in SMK Informatika Bina Generasi using Electronic-Based Rating Scale and Weighted Product Methods to Determine the Best Teacher Performance. *International Journal of Informatics, Economics, Management and Science*, 1(1), 55.
<https://doi.org/10.52362/ijiems.v1i1.693>
 29. Rahman, M. (2014). Professional competence, pedagogical competence, and the performance of junior high school of science teachers. *Journal of Educational and Practice*, 5(9), 75–80. www.iiste.org
 30. Rahman, M. H., Bolotio, R., & Napitupulu, D. (2025). The role of organizational commitment in improving teachers' job satisfaction in public high schools in Indonesia. *International Journal of Advanced and Applied Sciences*, 12(2), 62–71. <https://doi.org/10.21833/ijaas.2025.02.007>
 31. Rokhayani, A., Rukmini, D., Hartono, R., & Mujiyanto, J. (2022). Integrating Technology in Online Learning Based on Computer-Mediated Communication Artificial Intelligence to Improve Students' Achievement. *Journal of Higher Education Theory and Practice*, 22(15), 234–244. <https://doi.org/10.33423/jhetp.v22i15.5575>
 32. Sekreter, G. (2019). Emotional Intelligence as a Vital Indicator of Teacher Effectiveness. *International Journal of Social Sciences & Educational Studies*, 5(3), 286–302. <https://doi.org/10.23918/ijsses.v5i3p286>
 33. Sen, A. (2023). The Impact of Artificial Intelligence on Society: Opportunities, Challenges, and Ethical Considerations. *LinkedIn Corporation*, November. <https://doi.org/10.21474/IJAR01/19705>
 34. Seufert, S., Guggemos, J., & Sailer, M. (2021). Technology-related knowledge, skills, and attitudes of pre- and in-

- service teachers: The current situation and emerging trends. *Computers in Human Behavior*, 115(May 2020), 106552. <https://doi.org/10.1016/j.chb.2020.106552>
35. Sivananda, P., & Abdul Aziz, A. (2021). Utilizing Technology to Promote Active Learning: A Systematic Literature Review. *International Journal of Academic Research in Progressive Education and Development*, 10(3). <https://doi.org/10.6007/ijarped/v10-i3/10815>
36. Slimi, Z. (2023). The Impact of Artificial Intelligence on Higher Education: An Empirical Study. *European Journal of Educational Sciences*, 10(1), 17–33. <https://doi.org/10.19044/ejes.v10no1a17>
37. Su, H., Zhang, J., Xie, M., & Zhao, M. (2022). The relationship between teachers' emotional intelligence and teaching for creativity: The mediating role of working engagement. *Frontiers in Psychology*, 13(December), 1–10. <https://doi.org/10.3389/fpsyg.2022.1014905>
38. Susanto, A. H., & Abadi, I. B. G. S. (2021). The Influence of Emotional Intelligence and Teacher Workload on Teacher Performance. *Indonesian Journal Of Educational Research and Review*, 4(1), 34. <https://doi.org/10.23887/ijerr.v4i1.32925>
39. Tang, K. H. D. (2024). Implications of Artificial Intelligence for Teaching and Learning. *Acta Asian Pedagogy*, 3(2), 65–79. <https://doi.org/10.53623/apga.v3i2.404>
40. Tanveer, S., Tanveer, M., & Tanveer, A. (2024). Role of artificial intelligence in teaching and learning chemical sciences. *Artificial Intelligence: A Multidisciplinary Approach towards Teaching and Learning*, 6(3), 148–172.
41. Vieriu, A. M., & Petrea, G. (2025). The Impact of Artificial Intelligence (AI) on Students' Academic Development. *Education Sciences*, 15(3), 1–12. <https://doi.org/10.3390/educsci15030343>
42. Wang, L. (2022). Exploring the Relationship Among Teacher Emotional Intelligence, Work Engagement, Teacher Self-Efficacy, and Student Academic Achievement: A Moderated Mediation Model. *Frontiers in Psychology*, 12(January). <https://doi.org/10.3389/fpsyg.2021.810559>
43. Wen, Y., Chen, H., Pang, L., & Gu, X. (2020). The relationship between emotional intelligence and entrepreneurial self-efficacy of chinese vocational college students. *International Journal of Environmental Research and Public Health*, 17(12), 1–18. <https://doi.org/10.3390/ijerph17124511>
44. Widodo, W., Gustari, I., & Chandrawaty, C. (2022). Adversity Quotient Promotes Teachers' Professional Competence More Strongly Than Emotional Intelligence: Evidence from Indonesia. *Journal of Intelligence*, 10(3). <https://doi.org/10.3390/jintelligence10030044>
45. Wu, R., Jing, L., Liu, Y., Wang, H., & Yang, J. (2022). Effects of physical activity on regulatory emotional self-efficacy, resilience, and emotional intelligence of nurses during the COVID-19 pandemic. *Frontiers in Psychology*, 13(December), 1–10. <https://doi.org/10.3389/fpsyg.2022.1059786>
46. Wu, Y., Lian, K., Hong, P., Liu, S., Lin, R. M., & Lian, R. (2019). Teachers' emotional intelligence and self-efficacy: Mediating role of teaching performance. *Social Behavior and Personality*, 47(3). <https://doi.org/10.2224/sbp.7869>
47. Zakaria, Z., Majid, M. N., Othman, A. K., Ariffin, N. F., & Zahari, A. S. M. (2024). Predicting School Teachers' Job Performance Through Emotional Intelligence Model. *Proceedings of the 9th International Conference on Marketing and Retailing (INCOMaR 2023)*, March 1-2, 2023, Kota Kinabalu, Sabah, Malaysia, 133, Zainuddin-541. <https://doi.org/10.15405/epsbs.2024.05.44>
48. Zheng, W. (2023). Relationship of Emotional Intelligence and Teacher Competence: Basis for Teachers' Professional Development Plan. *International Journal of Education and Humanities*, 11(3), 226–228. <https://doi.org/10.54097/ijeh.v11i3.14623>