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ORIGINAL

# The benefits of Artificial Intelligence in the process of educating Students on ethics and abilities in higher education

## Los beneficios de la Inteligencia Artificial en el proceso de formación de estudiantes en ética y habilidades en la educación superior

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**ABSTRACT**

**Introduction**: the development of Artificial Intelligence technology is increasing in the world of higher education, including ethical practices and the formation of student abilities.
**Objectives**: this research aims to assess the implementation of AI in ethics education and student empowerment in higher education.
**Method**: using quantitative methods, this research conducted a survey with a questionnaire given to students at several universities that have used AI as a learning support. The collected data was then analyzed using linear regression with statistical tests to assess the differences and correlations between AI implementation variables and the level of ethical understanding and improvement in student abilities.
**Results**: from the results obtained, the implementation of AI has a positive influence on students' ethical practices with an X correlation ($p < 0,05$) found, with a significant increase in preventing plagiarism, ethics-based simulations, and increasing awareness of academic values. Apart from that, AI also has a positive influence on improving students' skills. It was also found that AI facilitates increasing skills for critical thinking, problem solving, and independence and X ($p < 0,05$).
**Conclusion**: this study found that reliance on AI in ethics and skills education practices resulted in reduced interaction and thinking in student learning. Based on this conclusion, this study states that the application of Artificial Intelligence in higher education provides high benefits in ethics and skills learning.

**Keywords:** Artificial Intelligence; Ethical Education; Student Abilities; Global Education.

**RESUMEN**

**Introducción:** el desarrollo de la tecnología de Inteligencia Artificial es cada vez mayor en el mundo de la educación superior, incluyendo las prácticas éticas y la formación de habilidades de los estudiantes.
**Objetivos:** esta investigación tiene como objetivo evaluar la implementación de la IA en la educación ética y el empoderamiento de los estudiantes en la educación superior.
**Método:** utilizando métodos cuantitativos, esta investigación realizó una encuesta con un cuestionario entregado a estudiantes de varias universidades que han utilizado la IA como apoyo al aprendizaje. Luego, los datos recopilados se analizaron mediante regresión lineal con pruebas estadísticas para evaluar las diferencias y correlaciones entre las variables de implementación de la IA y el nivel de comprensión ética y mejora de las habilidades de los estudiantes.
**Resultados**: de los resultados obtenidos, la implementación de IA tiene una influencia positiva en las prácticas éticas de los estudiantes encontrándose una correlación X ($p < 0,05$), con un aumento significativo en la prevención del plagio, simulaciones basadas en la ética y aumento de la conciencia sobre los valores

académicos. Aparte de eso, la IA también tiene una influencia positiva en la mejora de las habilidades de los estudiantes. También se encontró que la IA facilita el aumento de habilidades para el pensamiento crítico, la resolución de problemas y la independencia y X (p <0,05).
**Conclusión:** este estudio encontró que la dependencia de la IA en las prácticas de educación ética y de habilidades resultó en una reducción de la interacción y el pensamiento en el aprendizaje de los estudiantes. Con base en esta conclusión, este estudio afirma que la aplicación de la Inteligencia Artificial en la educación superior proporciona altos beneficios en el aprendizaje de la ética y las habilidades.

**Palabras clave:** Inteligencia Artificial; Educación Ética; Habilidades Estudiantiles; Educación Global.

## INTRODUCTION

In the ever-growing digital era, Artificial Intelligence technology has become an integral part of various sectors, including higher education. AI offers various benefits in the learning process, from adaptive learning systems, virtual tutors, to plagiarism detection in academic assignments.[1] Universities must utilize AI to improve the quality of the graduates they produce. One aspect that needs to be strengthened is ethics education. Likewise, it is necessary to improve critical thinking, problem solving and decision making skills. Ethics education is one of the elements that can shape student character.[2]

In the current era, student challenges are increasingly complex, so the existence of AI can certainly help students to answer the challenges they face today. The challenge is the ability of technology to easily contain so much information that it becomes a problem in itself.[3] In these circumstances, the use of AI does more than just help solve problems, but also has other functions that can be carried out with the use of AI. Ethical education pedagogy is a plagiarism detection system, ethical scenario-based learning, and simulation models that help students act in situations of confusion. Therefore, AI in higher education can help attract attention and inspire students. When students understand the use of AI well, it can certainly help speed up the completion of assignments more precisely and completely.[4]

Therefore, this research is very important because it requires an immediate understanding of how AI can be used to support higher education in any field, especially in building students' ethical values and strengthening skills. In other words, the education system also needs to adapt to contemporary developments, where AI must become a rich educational tool for students. This role supports active mechanisms that will determine various aspects that can produce quality education.[5]

Experience shows that misuse of technology, including plagiarism, begins with the use of AI without a deep understanding of the information obtained by students. This can be a consequence that can result in student dependency and thinking patterns that do not develop independently, and continue to need AI assistance.[6] However, on the other hand, increasingly advanced technology supports ease of work and delivery of information quickly and accurately. In the world of work, AI is needed to help identify problems that occur and help support appropriate decision making.[7]

In other words, AI is able to build students' self-confidence in carrying out assignments and exploring knowledge broadly and deeply. However, good assistance and understanding is needed so that there is no misuse of the technology system which has fatal consequences for the users. With this research, it is hoped that it can provide an overview of the benefits of AI in the world of education, especially in the education of ethics and student abilities in higher education, and can contribute to the development of broader information related to this matter.[8]

Apart from the phenomena described above, there are several research gaps related to previous research regarding the benefits of AI for ethical education and students' abilities in higher education which can be explained in table 1 below:

**Table 1.** Research GAP

| Author | Title | Result | Findings |
|---|---|---|---|
| [9] | Artificial intelligence and social media on academic performance and mental well-being: Student perceptions of positive impact in the age of smart learning | The study results reveal that both AI and social media have a positive impact on academic performance and mental well-being among university students. | The findings of this study state that the benefits of AI have an impact on the mentality of users. |
| [10] | AI literacy for ethical use of chatbot: Will students accept AI ethics? | he validation results show that the proposed curriculum particularly contributes to the understanding of LLM concepts and their ethical use in decision support. | The findings of this study indicate that the benefits of AI in the learning process can help decision making |

Sources: [9] and [10]

Based on previous research phenomena and research gaps, researchers are interested in analyzing more

deeply the benefits of AI on the ethics education process and students' abilities in higher education, so the formulation of the problem in this research is as follows: 1) how does AI influence the ethical education process? 2) how does AI influence students' abilities in higher education.

## METHOD

### Research design

This research uses a quantitative approach with descriptive methods to analyze the benefits of Artificial Intelligence in ethics education and improving students' skills in higher education. Descriptive methods are used to understand student perceptions regarding the use of AI to study ethics.[11]

### Population and sample

The population in this study were all university students in Indonesia who took the Professional Ethics course and had access to artificial intelligence (AI)-based technology in the learning process. The research sample was selected using a purposive sampling technique, namely students who had actively used AI technology in learning Professional Ethics. The number of samples in this study was 200 students, selected based on certain inclusion and exclusion criteria. Inclusion criteria include students who are actively taking the Professional Ethics course, have experience using AI technology in learning, and are willing to participate in the research. Meanwhile, the exclusion criteria are students who are inconsistent in using AI in learning or do not complete all stages of filling in the research instrument.

### Data collection techniques

The data collection technique in this study used an instrument in the form of a closed questionnaire to measure students' perceptions of the benefits of artificial intelligence (AI) in learning Professional Ethics and skills development. This questionnaire was compiled based on indicators that are relevant to the research topic, and has gone through a validation test process and a reliability test to ensure the reliability of the instrument before being distributed to respondents.[12]

### Data analysis techniques

The data analysis technique in this research uses SEM PLs to test the relationship between variables including T test, regression test, hypothesis test.[13]

**Table 2.** Instrument validity test

| | AI | Ethics education | Abilities |
|---|---|---|---|
| FI2-1 | | | 0,834 |
| FI2-2 | | | 0,863 |
| FI2-3 | | | 0,871 |
| FI2-4 | | | 0,841 |
| FI2-5 | | | 0,825 |
| FI3-1 | | | 0,830 |
| FI3-4 | | | 0,767 |
| FL1-1 | 0,721 | | |
| FL1-2 | 0,846 | | |
| FL1-3 | 0,799 | | |
| FL1-4 | 0,785 | | |
| FL1-5 | 0,836 | | |
| FL2-1 | 0,794 | | |
| FL2-2 | 0,771 | | |
| FL2-3 | 0,759 | | |
| FL2-4 | 0,816 | | |
| FL2-5 | 0,804 | | |
| FL3-1 | 0,843 | | |
| FL3-2 | 0,817 | | |
| FL3-3 | 0,808 | | |
| FL3-4 | 0,773 | | |
| FL3-5 | 0,813 | | |
| FL4-1 | 0,806 | | |
| FL4-2 | 0,816 | | |
| FL4-3 | 0,877 | | |
| FL4-4 | 0,835 | | |

| | | |
|---|---|---|
| FL4-5 | 0,841 | |
| S1-1 | | 0,847 |
| S1-2 | | 0,843 |
| S1-3 | | 0,854 |
| S1-4 | | 0,896 |
| S1-5 | | 0,792 |
| S1-6 | | 0,861 |
| S2-1 | | 0,849 |
| S2-2 | | 0,791 |
| S2-3 | | 0,854 |
| S2-4 | | 0,833 |
| S2-5 | | 0,809 |
| S2-6 | | 0,773 |
| **Source:** SEM PLS 2025 | | |

Based on table 2, the instrument validity test shows that each item used in this research has a correlation value above 0,7. This value shows that the validity of the instrument used is good. The AI variable has 19 items with loading factor values ranging from 0,721 to 0,877, the Ethics Education variable has 12 items with values ranging from 0,773 to 0,896, and the Ability variable has 7 items with factor loadings of 0,767 to 0,871. This shows that each instrument item is able to measure the variable in question reliably and consistently. With these high validity results, this research instrument can be considered suitable for use for further analysis. There is no single item whose value is below the minimum correlation value of 0,7 so there is no need to eliminate or revise these items. Therefore, researchers can utilize this instrument to obtain valid and reliable data to measure the correlation of AI, Ethics Education, and Ability in this research.

**Table 3.** Values *Average Variance Extracted* (AVE)

| | **Average Variance Extracted (AVE)** |
|---|---|
| AI | 0,654 |
| Ethics education | 0,668 |
| Abilities | 0,695 |
| **Source:** SEM Pls 2025 | |

Table 3 presents the Average Variance Extracted value for the three main variables in the study, namely AI, Ethics Education, and Abilities. AVE is used to measure convergent validity, or the extent to which the indicators in a variable can replicate the variable as a whole. Generally, AVE values greater than 0,5 are considered to satisfy convergent validity standards as they indicate that more than 50 % of the variance of an indicator can be explained by the variable it measures. As indicated in the table, the AVE values for AI, Ethics Education, and Abilities are 0,654, 0,668, and 0,695, respectively, which are all above the threshold of 0,5 and hence enable the conclusion that all three variables have good convergent validity. With acceptable AVE values, the instruments presented in the study are reliable in measuring the expected theoretical constructs. This means the indicators in each variable are well related to the construct, indicating that the measurement results can be trusted and are usable for further analysis. The higher AVE value for the variable Abilities implies that the variables indicators perform better in explaining the variable than those in others do. In general, the results show that the measurement model in the study fulfills convergent validity requirements and can be used in further structural analysis.

**Table 4.** Values *Cronbach Alpha* And *Composite Reliability*

| | **Composite Reliability** |
|---|---|
| AI | 0,974 |
| Ethics education | 0,963 |
| Abilities | 0,941 |
| **Source:** SEM Pls 2025 | |

Table 4 shows the composite reliability values for AI, Ethics Education, and Ability. CR is used to assess the internal consistency of a construct: that is, the extent to which measurement of a construct produces

similar results when comparing it with other indicators of a variable. A CR value of more than 0,7 is considered evidence of acceptable reliability, and a value above 0,9 indicates an excellent level of reliability. In this table, for example, AI is 0,974, Ethics Education is 0,963, ability is 0,941, all three have a very good level of reliability. With such a high composite reliability value, it can be concluded that the instrument used in this research will have strong internal consistency, so that the test measurements can be trusted and can be relied upon to be matched. A value close to 1 indicates that the indicators for each variable are highly correlated and can be used to measure the construct consistently. Of all the variables, the highest CR value is found in the AI 0,974 sample data. This means that the AI data indicator variable has the strongest level of consistency compared to other variables. Overall, these findings confirm that the measurement instrument meets high standards of reliability and can be used for further analysis.

## RESULT

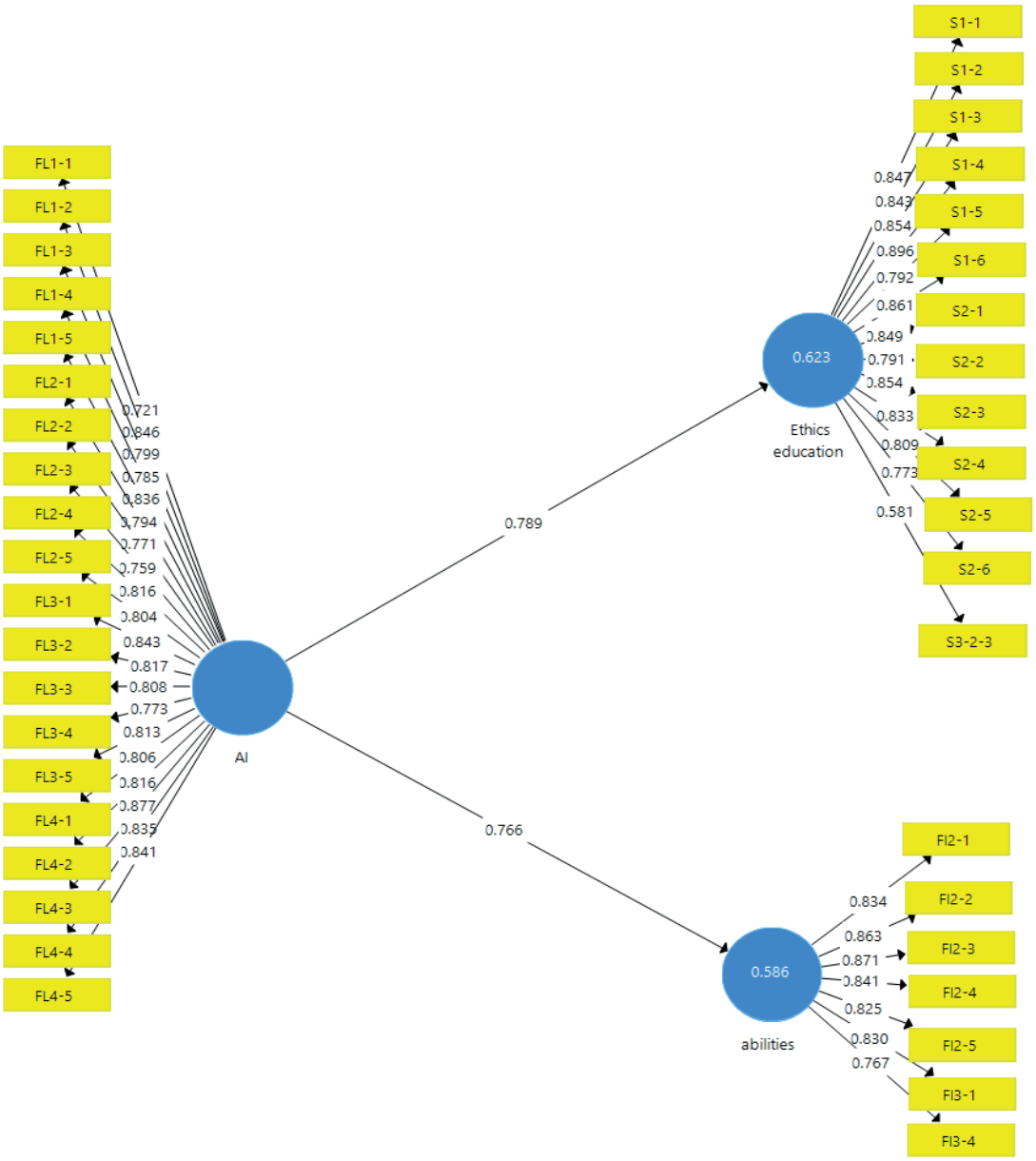


**Figure 1.** Outer model analysis
**Source:** SEM PLs 2025

Based on the loading factor output results seen in the image above, it states that all measurement items have a loading factor above 0,70, which means that the item measurement is valid and reflects the measurement of the variable.

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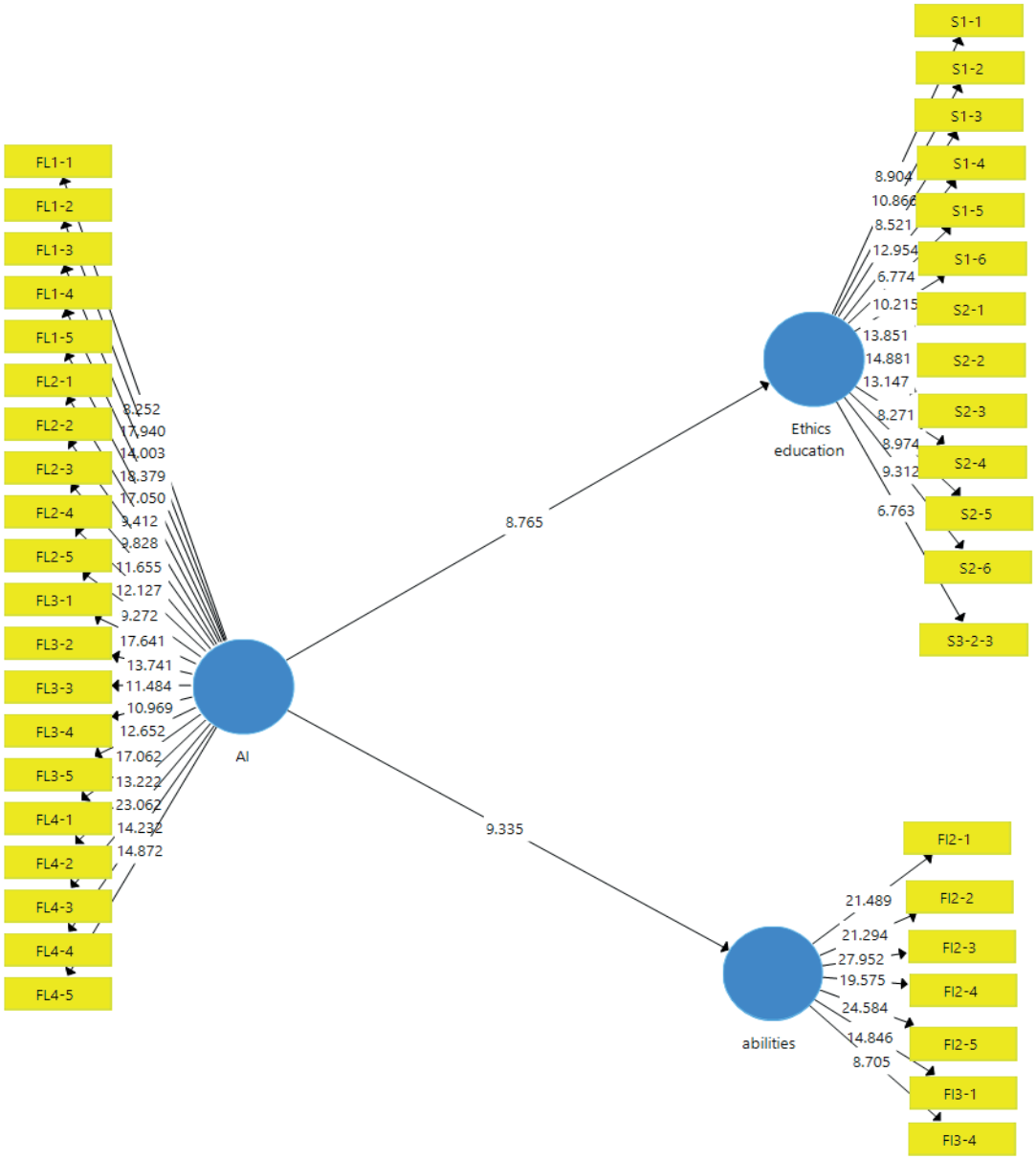


**Figure 2.** Inner Model Analysis
**Source:** SEM PLs 2025

**Table 5.** Hypothesis Test

| | Original Sample (O) | Sample Mean (M) | Standard Deviation (STDEV) | T Statistics (\|O/STDEV\|) | P Values |
|---|---|---|---|---|---|
| AI -> Ethics education | 0,789 | 0,758 | 0,090 | 8,765 | 0,000 |
| AI -> abilities | 0,766 | 0,749 | 0,082 | 9,335 | 0,000 |

**Source:** SEM Pls 2025

The results of the hypothesis test as presented in table 5 below measure the relationship between the AI variables, Ethics Education, and ability improvement using the statistical methods used. The Original Sample value is an estimate of the relationship between the independent and dependent variables with AI having a positive influence of 0,789 on Ethics Education and 0,766 on increasing Ability. This value shows that an increase in the AI variable is positively correlated with an increase in the Ethics Education and Ability variables. As the use of AI increases, ethical education and capacity building also increases.

Next, the T statistic (|O/STDEV|) is used to measure the significance of the relationship, and a value greater than 1,96 means the relationship is significant at a confidence level of 95 %. In this table the T-statistic value is 8,765 for AI -> Ethics Education and 9,335 for AI -> Abilities, meaning the relationship between the two is very

significant.

The P value, indicates the possibility that the observed relationship occurred by chance, and a p value <0,05 means the relationship between variables is statistically significant. In the table, the P value for both relationships is 0,000, meaning that the relationship between AI and Ethics Education, and AI and Ability, is very significant. Thus, these results support the hypothesis that AI has a positive and significant influence on Ethics and Capability Education and can be a basis for further research on the impact of AI on the ethics education and capability development sector.

Looking at the hypothesis test results in table 5, it can be concluded and assumed that AI has a significant positive influence on Ethics Education and Abilities. These results are reinforced by the Original Sample figures of 0,789 for AI -> Ethics Education and 0,766 for AI -> Abilities, which means that the more the use of AI increases, the better the ethical education and abilities that the individual will have. Furthermore, the dissimilarity of the T-statistic distance above 1,96 and the P-value 0,000 indicate a strong level of significance and believe this finding is certain. In this way, it can be said that AI has great potential to support strengthening of ethics education and increasing these abilities. AI can provide more interactive learning resources, manage grades, and increase abilities through automation and analysis with sophisticated data.

## DISCUSSION

### The influence of the use of AI on students' ethics education

Artificial Intelligence in student ethics education has had a significant positive impact by strengthening understanding of moral concepts and critical thinking skills to make decisions based on ethics.[14] Students who learn ethics using AI can apply concepts that they apply more based on data, accountable simulations, and customized learning.[15]

Table 3 shows the results of the analysis which provides an example of AI in ethics education strengthening the ethics results with O=0,789. This means that the O value increases, the students' understanding increases because more ethical concepts are understood.[16,17] AI learning improvements strongly support the results of previous research which observed that AI based on deep learning systems can provide an overview of real-world perspectives and scenarios of an ethical dilemma so that it is easier for students to understand them.[18]

AI not only helps students understand ethics, but also helps them review their own ideas when faced with ethical dilemmas and devise solutions to document their moral basis.[14,16] Table 3 shows that the students' O score increased from 0,101 to 078 as evidence that the AI used in the learning process has an effect on morality assumptions.[17,19] As previous research has found, AI through fast feedback can help students understand whether there is a suitable ethical perspective for them to respond to by examining a given ethical case.[10]

Based on this, it can be concluded that the benefits of AI in the ethics education process are very significant in influencing students' thinking patterns in analyzing ethical decisions used in facing challenges and problems that exist in academic circles and in their social environment.[17,19]

### The effect of using AI on improving student abilities

Artificial Intelligence has a significant positive impact on students' abilities, especially in problem solving, critical thinking, and adapting to the rapid development of technology.[20,21] With AI, students can have access to a wider range of learning resources and can adapt the learning process to individual needs through data hyper-analysis.[22]

The results of this research show that AI has a significant influence in improving students' abilities, as evidenced by the Original Sample 0 of 0,766 with a T statistic of 9,335 and a P-value of 0,000, showing a strong relationship and showing a very significant correlation based on statistics.

Previous studies reveal that AI increases students' learning effectiveness by offering real-time feedback and allowing them to explore possible solutions more systematically.[23]clinicians may be conceptualized as "consumers", "translators", or "developers". The changes required of medical education because of AI innovation are linked to those brought about by evidence-based medicine (EBM Apart from this, AI also plays an important role in developing students' critical and analytical thinking skills.[24,25] With the use of technologies such as machine learning and natural language processing, students are enabled to evaluate information,[26,27] identify patterns, and make decisions based on valid data.[19,20] The findings of this research demonstrate the significant impact of AI in helping students understand complex concepts more easily.[20,21] This is because AI can break down information into a format that is more interactive and easy to understand.[28]

Previous research has concluded that AI in education can improve problem solving through active learning because it introduces students to experiences from multiple points of view [29,30,31] to prevent cognitive biases in decision making.[9] Additionally, the benefits of applying AI are also seen in the development of collaborative skills[27,32,33] and adaptation of students to the challenges of the modern workplace.[21,24] AI allows them to learn in a digital environment that simulates the professional world.[34,35] This means that students can work on technology-based projects and are able to adapt to the rapid advances in technology.[36]

Previous research stated in its study that AI not only improves students› academic skills[34,35] but also helps develop soft skills such as communication and teamwork through AI-based interactive learning platforms.[24,25] Therefore, integrating AI into higher education will accelerate the learning process[14,20] and prepare students to face professional challenges with advanced skills relevant to modern industries.[37]

Based on this, it can be concluded that the benefits of AI in improving students' abilities have a very significant effect,[38] using AI helps students get various information quickly and develop their mindset in understanding every lesson they learn[39] so that it can improve students' reasoning abilities which has an impact on increasing their abilities.[25,34]

## CONCLUSION

Based on the results of the analysis, it shows that 1) there is a significant and positive influence of the use of AI on students' ethics education. 2) there is a significant and positive influence of the use of AI on improving students' abilities. The results of the study also show that students have a positive perception of the use of AI, especially in terms of facilitating the understanding of ethical values, providing learning simulations based on real situations, and improving critical, analytical, and adaptive thinking skills.

These findings answer the hypothesis that the use of AI in learning contributes positively to improving students' understanding of ethics and developing their abilities and support the research objective to evaluate the extent to which AI can be utilized in ethics education in higher education. Overall, AI has proven to be a potential supporting tool in creating a more interactive, personal, and contextual learning process, especially in courses that emphasize the dimensions of values and skills.

### Implication

The results of this research have major implications for the world of education, especially in the development of an AI-based ethics curriculum. A previous study by Wang et al. asserts that AI technology can be used to detect cognitive biases or inconsistencies in ethical decision making, thereby allowing students to reanalyze their perspectives regarding an ethical dilemma. In other words, AI has changed the conventional model of teaching ethics from being literature-based to being more interactive, data-based, and tailored to students' needs in understanding ethics education. Therefore, the use of AI in ethics learning is not only possible but also requires more development and widespread deployment to improve the quality of sustainable and effective ethics learning for students.[40]

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## FINANCING

None.

## CONFLICT OF INTEREST

None.

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