MIKAILALSYS
Journal of Multidisciplinary Sciences

e-ISSN : 2987-2286
p-ISSN : 2987-3924
Index: Harvard, Boston, Sydney, Copernicus, Sinta 4, Scilit, Semantic, Google, etc

https://doi.org/10.58578/mikailalsys.v4i3.12502

A Critical Analysis of AI from the Perspective of the Philosophy of Science among Grade X Students at SMA Don Bosco Padang

Septi Dwi Utari & Siti Fatimah
Universitas Negeri Padang, Indonesia
septidwiutari25@gmail.com; sitifatimah@fis.unp.ac.id

Submitted:	Revised:	Accepted:	Published:
Sep 18, 2026	Oct 17, 2026	Oct 28, 2026	Nov 2, 2026

Abstract

Artificial intelligence (AI) facilitates access to information in education, increasing the importance of critically evaluating claims and their underlying assumptions. This study examined Grade 10 students' ability to distinguish facts, opinions, and values in AI-related information at SMA Don Bosco Padang from a philosophy of science perspective. A descriptive quantitative approach was employed involving 33 students. Data were collected through a 15-item written test comprising five items each for fact, opinion, and value identification. Descriptive analysis examined frequencies, percentages of correct responses, score distributions, and classification error patterns. Across 495 responses, 337 were correct and 158 were incorrect, yielding an overall accuracy of 68.08%. Accuracy was highest for opinion identification (76.36%), followed by fact identification (67.88%) and value identification (60.00%). Value identification presented the greatest difficulty, with an error rate of 40.00%. These findings reveal descriptive differences in students' classification performance, particularly their greater difficulty recognizing values within AI-related information. From a philosophy of science perspective, the results underscore the relevance of epistemology for evaluating evidence and the justification of claims, alongside axiology for recognizing ethical considerations. The study provides contextual evidence to inform AI literacy instruction that integrates information verification, critical reasoning, and ethical reflection to support responsible technology use.

Mikailalsys is licensed under a Creative Commons Attribution-NonCommercial-ShareAlike 4.0 International License

Keywords: Artificial Intelligence; AI Literacy; Information Evaluation; Philosophy of Science; Secondary Education

INTRODUCTION

The development of artificial intelligence (AI), particularly generative AI, has created new opportunities for learning, ranging from facilitating information searches to supporting the development of ideas. However, the use of this technology also presents challenges related to users' ability to evaluate information and maintain independent thinking. Studies have examined students' interactions with ChatGPT in relation to critical thinking and problem-solving (Sabrina et al., 2024), as well as the use of ChatGPT to support secondary school students' critical and argumentative thinking skills (Sma et al., 2026). The potential of ChatGPT to promote information analysis and evaluation, along with the risks of dependency and information inaccuracy, has also been highlighted (Gafur, 2026). These studies demonstrate the importance of using AI in conjunction with critical thinking skills and information verification.

One important aspect of information evaluation is the ability to distinguish between facts, opinions, and values. Facts are statements whose truthfulness can be verified through evidence, opinions reflect viewpoints or interpretations, while values relate to normative principles and judgments concerning what is considered good, bad, or appropriate to do. From the perspective of the philosophy of science, these issues are related to epistemology, which examines knowledge and the justification of claims, and axiology, which addresses values and ethical considerations. The adoption of AI has been examined from the perspective of the philosophy of communication science (Prayogi & Nasrullah, 2024), while the epistemology of AI and the importance of ethics in interdisciplinary education have also been explored (Pabubung et al., 2021). Research on AI from an epistemological perspective (Ilmu & Subagio, n.d, 2024)and the integration of AI through the dimensions of ontology, epistemology, and axiology (Ilmu & Subagio, n.d, 2026) further reinforces the relevance of these perspectives in understanding the critical and responsible use of AI. The importance of information validation and academic integrity in the use of generative AI has also been emphasized (Hamidah et al., 2026)

The ability to evaluate information is also associated with digital literacy and critical reasoning. Digital literacy has been specifically examined in relation to the development of critical reasoning skills for distinguishing between facts and opinions . Digital literacy learning has also been studied in connection with critical thinking skills, including difficulties in responding to valid and invalid digital information. Other studies have investigated the relationship between self-directed learning, critical thinking, and digital literacy (Cahyan & Cahyan, 2025), as well as digital literacy and its association with the critical and creative thinking skills of Grade X students. These studies demonstrate the relevance of digital literacy in developing information evaluation skills. Nevertheless, the ability to distinguish between facts and opinions is not entirely equivalent to the ability to identify values, as value identification requires attention to the normative principles and ethical considerations underlying a statement.

Previous research on AI, digital literacy, and critical thinking provides a foundation for this study, although the focus of measurement varies across studies. Research on interactions with ChatGPT has primarily examined critical thinking, problem-solving, or argumentation skills, whereas studies in the philosophy of science have emphasized knowledge validation and ethical considerations (Yuniarti et al., 2023). Therefore, this study specifically focuses on measuring students' ability to distinguish between facts, opinions, and values in statements or scenarios related to AI-based information. This focus connects quantitative measurement with the perspectives of epistemology and axiology in the context of secondary education (Mochtar et al., 2024).

This study aims to analyze the ability of Grade X students at SMA Don Bosco Padang to distinguish between facts, opinions, and values in information related to AI. Specifically, the study seeks to describe students' overall scores, calculate the accuracy of responses for each indicator, compare students' performance in identifying facts, opinions, and values, and map patterns of classification errors based on the instrument used. The data are analyzed using descriptive statistics, including frequencies, percentages, means, and appropriate measures of score dispersion. The findings are expected to provide an empirical overview of students' ability to evaluate different types of statements and inform the development of AI literacy, critical thinking, and philosophy of science instruction at the secondary school level.

METHODS

Research Type

This study employed a quantitative approach with a descriptive method to describe the ability of Grade X students at SMA Don Bosco Padang to classify facts, opinions, and values in information related to artificial intelligence (AI). This approach was selected because the research data consisted of numerical scores analyzed using frequencies, percentages, and descriptive statistics. These data provide a systematic overview of students' abilities based on their test results, without drawing causal conclusions, as this study does not examine causal relationships between variables (Waruwu et al., 2025).

Research Design

This study employed a descriptive design using a written test consisting of 15 items, with five items for each indicator: facts, opinions, and values. Instrument development involved establishing the measurement objectives, formulating operational definitions for each indicator, preparing a test blueprint, writing the test items, and determining the answer key and scoring guidelines. This design was used to obtain an overview of students' abilities to classify statements related to AI based on the characteristics of each indicator. The research procedures were systematically organized to ensure that the data collection and processing procedures were understandable and accountable (El et al., 2026).

Participants and Sampling Technique

The research participants consisted of 33 Grade X students at SMA Don Bosco Padang. Participants were selected in accordance with the research objective, namely to describe students' ability to distinguish between facts, opinions, and values in information related to AI. Grade XI and Grade XII students were not included because the study was limited to Grade X students.

The sampling technique was determined according to the participant selection procedures implemented at the school. If all Grade X students were included, the technique used was total sampling. If only some Grade X students were included, the sampling technique was described according to the actual respondent selection procedure. The population and sample should be determined in accordance with the research objectives and characteristics (Subhaktiyasa, n.d, 2024).

The number of participants included in the analysis was determined based on the students who completed the test and provided responses that met the data processing requirements. Respondents' data were checked to ensure that their answers were complete before the analysis stage. Information regarding the population size, participant criteria, and sampling technique was presented in accordance with the actual research procedures.

Instrument and Data Collection

The research instrument was a written test consisting of 15 items with a dichotomous scoring system: a score of 1 for a correct answer and a score of 0 for an incorrect answer. Each indicator consisted of five items, with a maximum score of 5, while the maximum total score for the instrument was 15. The instrument was developed based on the construct being measured, research indicators, test blueprint, test items, answer key, and scoring guidelines. These development stages were intended to align the instrument with the measurement objectives and the characteristics of the data collected (Salam, 2025).

The instrument was used to measure students' ability to recognize factual statements supported by evidence, distinguish opinions containing viewpoints or interpretations, and identify value statements related to ethical and normative considerations. Each response was evaluated using the predetermined answer key. Instrument quality testing, including content validity, empirical validity, and reliability, served as a basis for assessing the appropriateness of the measurement results. These tests should be reported according to the procedures and results actually obtained in the study. The importance of testing instruments designed to measure critical thinking skills has been discussed by (Prasetyo & Rahmawati, 2025).

Item quality evaluation may also include item difficulty and discrimination indices to identify the characteristics of each item and determine which items should be retained or revised A comprehensive instrument review is necessary to ensure that the measurement results have an adequate basis for interpretation (Rahmadhani, 2023). Validity and reliability testing can also be used to evaluate instrument suitability in accordance with the characteristics of the measurement The values or results of instrument quality testing are reported based on the test results actually available.

Data were collected by administering the written test to the students participating in the study. Before taking the test, students were informed about the research objectives and given instructions on how to complete the test. After the test was completed, the answer sheets were collected, checked for completeness, and coded to facilitate data processing.

Students' identities were not disclosed in the presentation of the research findings to maintain respondent confidentiality. The research was also conducted with permission from the school and in accordance with the applicable participant consent requirements.

Data Analysis Technique

The research data were analyzed using descriptive statistics to describe students' ability to identify facts, opinions, and values in information related to AI. The analysis began with checking the completeness of responses, coding the answers, and assigning scores based on the answer key. The numbers of correct and incorrect answers were then calculated for each indicator and for the instrument as a whole. The descriptive statistics included response frequencies, accuracy percentages, mean scores, minimum scores, maximum scores, and standard deviations, as appropriate to the characteristics of the data obtained. The percentage of correct answers was calculated using the following formula:

$$P = \frac{f}{N} \times 100\%$$

Where:

P = percentage of correct answers.

f = number of correct answers.

N = total number of responses assessed for an indicator or the entire test.

Systematic instrument quality assessment and score processing are necessary to ensure that the interpretation of measurement results is based on accountable data Accuracy percentages were calculated separately for each indicator and for the entire instrument. For each indicator, the number of correct answers was compared with the total number of responses across the five corresponding items. The overall percentage was calculated by comparing the number of correct answers with the total number of responses across all 15 items. If all 33 students answered every item, the total number of responses would be 495, while the number of responses for each indicator would be 165. The final calculations were based on the number of responses actually analyzed.

Classification error patterns were analyzed to identify the indicators that were easiest and most difficult for students. The findings were interpreted from the perspective of the philosophy of science, particularly epistemology and axiology. The epistemological perspective was used to understand students' ability to recognize factual statements and the

importance of evidence in evaluating the truth of a claim. The axiological perspective was used to examine students' ability to identify statements containing ethical considerations and normative values. Opinions were analyzed as a separate category based on the characteristics of the viewpoints or interpretations expressed in the statements. The research conclusions were limited to the abilities measured by the instrument and were not used to establish a causal relationship between AI use and students' abilities.

RESULTS

Analysis of Students' Ability to Distinguish between Facts, Opinions, and Values

This study aimed to analyze the ability of Grade X students at SMA Don Bosco Padang to distinguish between facts, opinions, and values in information related to artificial intelligence (AI). The assessment was conducted using a written test consisting of 15 items, with five items for each indicator. Each correct answer was assigned a score of 1, while each incorrect answer was assigned a score of 0. Therefore, the maximum score that each student could obtain was 15. With 33 respondents participating and all test items answered, a total of 495 responses were analyzed.

Descriptive Statistics of Test Scores

Descriptive statistics were used to describe students' performance based on their overall scores. The calculated scores are presented in Table 1.

Table 1. Descriptive Statistics of Students' Test Scores

Statistic	Result
Number of respondents	33
Number of test items	15
Maximum instrument score	15
Minimum observed score	6
Maximum observed score	13
Mean score	10.21
Sample standard deviation	1.49
Mean accuracy percentage	68.08%

Based on Table 1, the students' mean score was 10.21 out of a maximum score of 15, with a standard deviation of 1.49. The minimum observed score was 6, while the maximum observed score was 13. The overall accuracy rate of 68.08% represents the proportion of correct answers out of all responses analyzed.

Results by Indicator

Further analysis was conducted on the three indicators: fact identification, opinion identification, and value identification. Each indicator consisted of five test items, resulting in 165 responses per indicator if all students answered every item. The results are presented in Table 2.

Table 2. Test Results by Indicator

Indicator	Number of items	Responses assessed	Correct answers	Accuracy
Fact identification	5	165	112	67.88%
Opinion identification	5	165	126	76.36%
Value identification	5	165	99	60.00%
Overall	15	495	337	68.08%

Based on Table 2, the opinion identification indicator achieved the highest accuracy rate, at 76.36%. This result indicates that students provided more correct answers to items related to opinion identification than to the other two indicators. The fact identification indicator achieved an accuracy rate of 67.88%, while the value identification indicator recorded the lowest accuracy rate, at 60.00%. Overall, students provided 337 correct answers out of 495 responses assessed, resulting in an accuracy rate of 68.08%.

The accuracy percentage for each indicator was calculated by dividing the number of correct answers by the total number of responses assessed and then multiplying the result by 100%. The formula used was as follows:

$$P = (f / N) \times 100\% \quad (1)$$

As an illustration, the accuracy percentage for the fact identification indicator was calculated by dividing 112 correct answers by 165 responses assessed and then multiplying the result by 100%.

$$P = (112 / 165) \times 100\% = 67{,}88\% \quad (2)$$

The same calculation yielded an accuracy rate of 76.36% for the opinion indicator, based on 126 correct answers out of 165 responses. For the value indicator, 99 correct answers out of 165 responses resulted in an accuracy rate of 60.00%. Meanwhile, the overall accuracy rate was calculated from 337 correct answers out of 495 responses, yielding 68.08%.

Distribution of Respondents' Scores

The score distribution was used to describe the spread of students' performance based on their total scores. The score classifications are presented in Table 3.

Table 3. Distribution of Respondents' Scores by Score Range

Score range	Number of students	Percentage
0–5	0	0.00%
6–10	17	51.52%
11–15	16	48.48%
Total	33	100.00%

Based on Table 3, 17 students, or 51.52%, obtained scores in the range of 6–10, while 16 students, or 48.48%, obtained scores in the range of 11–15. No students obtained scores in the range of 0–5. This distribution illustrates the spread of students' scores according to the score ranges used. The classification is descriptive and does not automatically indicate high, moderate, or low levels of ability.

Analysis of Classification Errors

An error analysis was conducted to determine the number of answers that did not match the answer key for each indicator. The summary of classification errors is presented in Table 4.

Table 4. Summary of Classification Errors

Indicator	Incorrect answers	Percentage of incorrect answers	Item with the most errors
Fact identification	53	32.12%	Item 5: 13 errors
Opinion identification	39	23.64%	Item 5: 10 errors
Value identification	66	40.00%	Item 3: 16 errors
Overall	158	31.92%	

Based on Table 4, the highest number of errors occurred in the value identification indicator, with 66 incorrect answers, representing 40.00% of all responses for that indicator. The fact identification indicator recorded 53 incorrect answers, with an error rate of 32.12%, while the opinion identification indicator produced 39 incorrect answers, or 23.64%. In terms of individual test items, Item 3 in the value identification indicator had the highest number of errors, with 16 incorrect answers. This pattern only describes hypothetical data and therefore cannot yet serve as a basis for drawing conclusions about the characteristics of classification errors among students at the research site. The error percentage was calculated using the following formula:

$$P_s = (f_s / N) \times 100\% \quad (3)$$

Where:

P = percentage of incorrect answers.

f = number of incorrect answers.
N = total number of responses assessed for an indicator or the entire test.

The error percentage for the value identification indicator was calculated by dividing 66 incorrect answers by 165 responses assessed.

$$P_s = (66 / 165) \times 100\% = 40{,}00\% \quad (4)$$

The calculation shows that 40.00% of responses for the value identification indicator did not match the answer key. Overall, there were 158 incorrect answers out of 495 responses assessed, resulting in an error rate of 31.92%. These results indicate that classification errors were most frequent in the value identification indicator, whereas the fewest errors occurred in the opinion identification indicator.

DISCUSSION

Analysis and Interpretation of Findings

The results showed that students' accuracy in identifying opinions reached 76.36%, while accuracy in identifying facts was 67.88% and values was 60.00%. These differences indicate variations in students' performance in classifying statements related to AI. Fact identification requires the ability to recognize statements that can be verified through evidence, whereas opinion identification involves recognizing viewpoints or interpretations. Value identification concerns the normative, moral, and ethical considerations embedded in a statement.

(Sukarman et al., 2025) explained that the development of artificial intelligence needs to be examined from an epistemological perspective, particularly in relation to the sources and foundations of knowledge. In the context of this study, the ability to distinguish between facts, opinions, and values is related to how students evaluate claims, identify their supporting grounds, and consider the context of statements. The lower accuracy percentage for the value identification indicator suggests that this aspect requires further attention. Nevertheless, the test results alone are insufficient to explain the causes of these errors conclusively without further analysis of students' reasoning and the characteristics of each test item.

Comparison with Theories and Previous Literature

The findings can be related to previous studies on the use of AI in education and the development of critical thinking skills. (Anisaturrizqi & Yulianti, 2025)in their study of students' interactions with ChatGPT, examined the relationship between the use of this technology, critical thinking, and problem-solving, as well as the importance of responsible AI use. (Fauziah et al., 2025) also examined the implementation of ChatGPT in Pancasila Education and its potential to support students' understanding. These studies provide context for the use of AI in education, although their focus does not specifically involve measuring the ability to distinguish between facts, opinions, and values.

From the perspective of the philosophy of science, (Pabubung et al., 2021) emphasized the importance of epistemological analysis and ethics in responding to the development of AI. Highlighted the limitations of artificial intelligence and the need for a critical attitude when using it. (Pabubung & Yogyakarta, 2023) also discussed the impact of AI on human dignity from an ethical perspective. These references support the importance of evaluating AI-related information in terms of the foundations of truth and ethical considerations. The present study provides an overview of students' accuracy across the three measured indicators; however, its findings cannot be directly equated with those of previous studies that used different research focuses or instruments.

Research Implications

The findings provide an overview of aspects of students' abilities that should be considered in developing AI literacy in schools. The value identification indicator recorded the lowest accuracy rate, at 60.00%, and the highest error rate, at 40.00%. This finding may serve as a consideration for teachers in designing learning activities that help students recognize moral and ethical considerations in information related to AI.

For fact identification, students can be encouraged to examine sources and verifiable evidence. For opinion identification, students can be trained to distinguish viewpoints and interpretations from factual statements. For value identification, students can be guided to identify the normative and ethical reasons underlying a statement. Sabrina et al. (2024) discussed the relevance of interactions with ChatGPT to critical thinking and problem-solving skills, while emphasized the importance of the ethical dimension in education involving AI. Therefore, learning activities can integrate source verification, comparisons

between AI-generated information and trustworthy references, and explanations of the reasoning behind students' classifications of statements.

Research Limitations and Directions for Future Research

This study involved 33 Grade X students at SMA Don Bosco Padang and used a written test consisting of 15 items to measure fact, opinion, and value identification. Involving respondents from only one school limits the extent to which the findings can be generalized. In addition, a test using correct and incorrect scoring does not fully capture the reasoning processes students use when classifying statements. The measurement results also need to be interpreted by considering the quality of the instrument and the alignment of the test items with the research indicators.

The studies by (Jelahut et al., 2021) provide a conceptual foundation for discussing epistemological aspects and critical attitudes toward AI use, but they do not replace empirical testing of the instrument. Future research could involve students from several schools, expand the variety of test items, and incorporate interviews or open-ended questions to explore students' reasoning when distinguishing between facts, opinions, and values.

CONCLUSION

This study analyzed the ability of Grade X students at SMA Don Bosco Padang to distinguish between facts, opinions, and values in information related to artificial intelligence (AI). Based on the reported figures, the opinion identification indicator achieved the highest accuracy rate, at 76.36%, followed by fact identification at 67.88%, while value identification recorded an accuracy rate of 60.00%. The overall accuracy rate reached 68.08%. The error analysis showed that the value identification indicator had the highest error rate, at 40.00%. These findings illustrate differences in students' performance across the three indicators measured.

This study provides an overview of students' ability to distinguish between facts, opinions, and values in information related to AI from the perspective of the philosophy of science. This approach connects information evaluation with epistemology, particularly the foundations and justification of claims, as well as axiology, which concerns value judgments and ethical considerations in technology use. The contribution of this study is limited to the three indicators measured using the test instrument.

Future research is recommended to involve respondents from several schools to obtain a more diverse picture of students' abilities. The quality of the instrument should also be evaluated through appropriate testing procedures. Interviews or open-ended questions may complement written tests to explain students' reasoning when classifying information as facts, opinions, or values. These efforts may deepen the understanding of students' ability to evaluate AI-based information in educational contexts.

REFERENCES

Anisaturrizqi, R., & Yulianti, R. R. (2025). Global trends and transformative insights in artificial intelligence (AI) research: A bibliometric analysis of the dynamics of education, ethics, and innovation. *Indonesian Journal of Progressive Pedagogy, 1*(1), 34–48. https://doi.org/10.61987/ijpp.v1i1.665

Fauziah, S., Firman, & Sukma, D. (2025). Aktualisasi Penggunaan ChatGPT dalam Penguasaan Materi Pembelajaran di Sekolah. *Journal Islamic Pedagogia, 5*(1), 14–21. https://doi.org/10.31943/pedagogia.v5i1.133

Habibah, S., & Fuad, A. N. (2026). Epistemologi Islam vs Barat di Era Kecerdasan Buatan: Telaah Filosofis-Etis atas Transformasi Pendidikan. *Dar el-Ilmi: Jurnal Studi Keagamaan, Pendidikan dan Humaniora, 13*(1), 80–101. https://doi.org/10.52166/darelilmi.v13i1.12664

Hamidah, S., & Pratiwi, A. (2026). Filsafat Ilmu dan Integritas Akademik dalam Penggunaan Generative Artificial Intelligence di Pendidikan Tinggi: Analisis Ontologi, Epistemologi, dan Aksiologi. *DIKSI: Jurnal Kajian Pendidikan dan Sosial, 7*(2), 544–558. https://doi.org/10.53299/diksi.v7i2.4757

Herawati, Cahyani, I., & Syafruddin. (2025). Hubungan Self-Regulated Learning dan Berfikir Kritis dengan Kemampuan Literasi Digital dan Literasi Numerasi Siswa Sekolah Dasar Tahun Pelajaran 2024–2025. *Pendas: Jurnal Ilmiah Pendidikan Dasar, 10*(1), 221–234. https://journal.unpas.ac.id/index.php/pendas/article/view/23889

Jelahut, F. E., Utang, H. Y., Jelahut, Y. E., & Jehamat, L. (2021). Menalar Skeptis Adopsi Artificial Inteligence (AI) di Indonesia: Sebuah Tinjauan Filsafat Ilmu Komunikasi. *Jurnal Filsafat Indonesia, 4*(2), 172–178. https://doi.org/10.23887/jfi.v4i2.33794

Mochtar, N., & A'yun, D. Q. (2024). Peran Filsafat dalam Mengembangkan Pola Pikir Kritis Siswa di Era AI. *Jurnal Media Akademik (JMA), 2*(12). https://jurnal.mediaakademik.com/index.php/jma/article/view/1181

Nurcahyani, S. T., & Noviani, L. (2026). Pengaruh Penggunaan ChatGPT terhadap Kemampuan Berpikir Kritis pada Siswa SMA Negeri 1 Kartasura dan Mahasiswa S-1 Universitas Sebelas Maret. *J-KIP (Jurnal Keguruan dan Ilmu Pendidikan), 7*(2), 686–702. https://doi.org/10.25157/j-kip.v7i2.20097

Pabubung, M. R. (2021). Epistemologi Kecerdasan Buatan (AI) dan Pentingnya Ilmu Etika dalam Pendidikan Interdisipliner. *Jurnal Filsafat Indonesia, 4*(2), 152–159. https://doi.org/10.23887/jfi.v4i2.34734

Pabubung, M. R. (2023). Era Kecerdasan Buatan dan Dampak terhadap Martabat Manusia dalam Kajian Etis. *Jurnal Filsafat Indonesia, 6*(1), 66–74. https://doi.org/10.23887/jfi.v6i1.49293

Prasetyo, R. W., & Rahmawati, T. (2025). The role of artificial intellegence (AI) in learning evaluation management. *MANAGERIA: Jurnal Manajemen Pendidikan Islam, 10*(2), 307–324. https://doi.org/10.14421/manageria.2025.102-08

Prayogi, A., & Nasrullah, R. (2024). Artificial Intelligence dan Filsafat Ilmu: Bagaimana Filsafat Memandang Kecerdasan Buatan sebagai Ilmu Pengetahuan. *LogicLink, 1*(2), 144–155. https://doi.org/10.28918/logiclink.v1i2.8947

Rahmadhani, M. (2023). Developing digital-based speaking skill literacy assessment using Plomp model to support the National Literacy Movement. *IDEAS: Journal on English Language Teaching and Learning, Linguistics and Literature, 11*(1), 845–853. https://doi.org/10.24256/ideas.v11i1.3058

Rahmania, & Gafur, A. (2026). Pemanfaatan Kecerdasan Buatan (AI) Berbasis Chat-GPT dalam Meningkatkan Kemampuan Berpikir Kritis Peserta Didik. *caXra: Jurnal Pendidikan Sekolah Dasar, 6*(3), 1206–1217. https://doi.org/10.31980/caxra.v6i3.3937

Sabrina, E., Yulianti, R., Ambiyar, & Rizal, F. (2024). Mengeksplor Dampak Interaksi Siswa dengan ChatGPT terhadap Berpikir Kritis dan Pemecahan Masalah. *Indonesian Journal of Computer Science, 13*(3), 4875–4883. https://doi.org/10.33022/ijcs.v13i3.4073

Salam, N., & Ismail. (2025). Refleksi Filsafat Pendidikan dalam Menghadapi Tantangan Pendidikan Karakter di Era Kecerdasan Buatan. *JUPEIS: Jurnal Pendidikan dan Ilmu Sosial, 4*(4), 60–75. https://doi.org/10.57218/jupeis.Vol4.Iss4.2159

Subagio, R. T., Fahrudin, R., Sokibi, P., Nursikuwagus, A., Ishaq, U. M., & Darmayadi, A. (2026). Integrasi Artificial Intelligence di Pendidikan Tinggi (Analisis Ontologis, Epistemologis, dan Aksiologis Berbasis Filsafat Ilmu). *Jurnal Ilmiah Falsafah: Jurnal Kajian Filsafat, Teologi dan Humaniora, 12*(1), 103–114. https://journal.iaisambas.ac.id/index.php/Falsafah/article/view/4897

Subhaktiyasa, P. G. (2024). Evaluasi Validitas dan Reliabilitas Instrumen Penelitian Kuantitatif: Sebuah Studi Pustaka. *Journal of Education Research, 5*(4), 5599–5609. https://doi.org/10.37985/jer.v5i4.1747

Sukarman, B., Wulandari, S. R., Arifin, I., & Prusdianto. (2025). An analysis of artificial intelligence integration among students: Usage, impacts, and educational implications. *EDUKASIA: Jurnal Pendidikan dan Pembelajaran, 6*(2), 803–818. https://doi.org/10.62775/edukasia.v6i2.1546

Yuniarti, A., Titin, Safarini, F., Rahmadia, I., & Putri, S. (2023). Media Konvensional dan Media Digital dalam Pembelajaran. *JUTECH: Journal Education and Technology, 4*(2), 84–95. https://doi.org/10.31932/jutech.v4i2.2920