

Analysis of elementary school teachers' perspectives in the Bekasi area on the use of artificial intelligence in Learning

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Abstract: This study shows how elementary school teachers in Bekasi see the use of Artificial Intelligence (AI) in their teaching. It focuses on three key areas: knowing about digital rights, who owns the things created with AI, and which AI models teachers prefer. The research used a quantitative method, asking 394 teachers chosen through purposeful sampling. Data was gathered using well-tested questionnaires and analyzed with SPSS, using methods like descriptive stats, Pearson correlation, and multiple linear regression. The findings show that all three factors have a positive and strong impact on how teachers view AI in education (with a significance level less than 0.05), with digital rights knowledge being the most important. The findings indicate that teachers' readiness to adopt AI is influenced not only by technical skills but also by an understanding of digital ethics and law. In conclusion, teacher capacity development needs to combine technical and ethical training, along with policy and infrastructure support, to encourage the responsible and sustainable use of AI.

Keywords: AI model preference, digital rights literacy, ownership of creations

Abstrak: Penelitian ini bertujuan menggali pandangan guru Sekolah Dasar di Bekasi mengenai penerapan kecerdasan buatan (AI) dalam proses belajar mengajar. Penelitian ini meninjau tiga hal utama, yaitu pemahaman tentang hak digital, kepemilikan karya cipta, dan pilihan model AI yang digunakan. Metode yang digunakan adalah survei dengan pendekatan kuantitatif, melibatkan 394 guru yang dipilih secara purposive sampling. Data dikumpulkan melalui kuesioner yang telah diuji kevalidannya dan keandalannya, kemudian dianalisis menggunakan SPSS 23 dengan teknik analisis deskriptif, korelasi Pearson, dan regresi linear berganda. Hasil menunjukkan bahwa ketiga variabel memiliki dampak positif dan signifikan terhadap persepsi guru tentang AI (Sig. < 0,05), dengan pemahaman hak digital menjadi faktor yang paling berpengaruh. Temuan mengindikasikan bahwa kesiapan adopsi AI oleh guru dipengaruhi bukan hanya kemampuan teknis tetapi juga pemahaman etis dan hukum digital. Kesimpulannya, pengembangan kapasitas guru perlu menggabungkan pelatihan teknis dan etika serta dukungan kebijakan dan infrastruktur untuk mendorong pemanfaatan AI yang bertanggung jawab dan berkelanjutan.

Kata kunci: Preferensi model AI, literasi hak digital, kepemilikan ciptaan

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INTRODUCTION

Creating machines capable of thinking and acting like humans is the focus of the science and engineering discipline called Artificial Intelligence (AI) (Hastuty et al., 2025; Tahiru, 2021). In the last two decades, AI has developed into an interdisciplinary field which holds a vital function across multiple industries, including education. Technological developments such as machine learning, big data, and neural networks have enabled AI to simulate human abilities in recognizing patterns, analyzing data, and making decisions, thereby triggering a major transformation in learning systems (Kunwar et al., 2025; Zhai et al., 2021). Damopolii, (2025), Mustofa et al. (2024), and Xu and Ouyang (2022) emphasize that the education system can be viewed as a complex adaptive system consisting of subjects, information, media, technology, and the environment. In this framework, AI acts

as an element of technology that interacts with other elements, so that its presence can give rise to new characteristics and relationships between teachers, students, and learning media. Therefore, AI's integration into the field of education goes beyond being simply a technological innovation, which turns into a systemic change that requires a balance between pedagogical, social, and ethical dimensions so that learning remains human-centered.

Although globally the implementation of AI in education shows great potential to revolutionize learning practices and improve instructional effectiveness, its implementation at the practical level still faces various challenges, particularly those related to human resource readiness, ethical aspects, and the local context of education. In this regard, teachers play a crucial role as the main agents who set the boundaries for how this technology can be meaningfully adapted in the classroom. Previous research shows that teachers view the use of AI as being able to customize learning experiences, enrich teaching materials, and support learning analysis. However, its implementation requires strengthening AI literacy, ethical guidelines, and the validation of reliable assessment tools (Lemos et al., 2025; Pilco et al., 2022; Salcedo et al., 2025). Therefore, although AI offers great potential, its successful implementation depends heavily on the level of teachers' readiness to use this technology critically, responsibly, and in line with the principles of digital rights, intellectual property, and applicable education policies.

Despite the growing use of AI in education, classrooms are not always ready to utilize this technology. Many teachers are still exploring and experimenting, so AI has not yet become a planned part of learning design in the classroom. Various recent studies show that this readiness still faces a number of fundamental challenges, ranging from uneven and generally low AI literacy in various educational contexts (Sari et al., 2025; Traga Philippakos & Rocconi., 2025), to limitations in the quality and validity of instruments used to assess AI literacy and readiness (Lintner, 2024), to the need to strengthen understanding of digital rights, data privacy, and ethical responsibility in the use of educational technology (Akgun & Greenhow, 2022; Gallego-Arrufat et al., 2024; Kol & Şenöz, 2025). A study on teachers' perspectives in Southeast Asia highlights that, although teachers tend to view AI as an effective and motivating tool in learning, obstacles such as lack of training, technological competence, and infrastructure support remain major barriers to AI integration in schools (Zulkarnain & Yunus, 2023). Furthermore, a systematic review by Celik et al. (2022) shows that teachers' roles in developing and utilizing educational AI systems are still relatively limited. These findings indicate that the adoption of AI in schools is not yet fully supported by adequate capacity and ecosystems, making the position of teachers as both users and guides in the utilization of AI a crucial issue that needs to be further explored.

These challenges are evident in two main aspects that are the focus of this study, namely digital rights literacy and understanding of copyright when teachers utilize AI in learning. In many contexts, issues of digital rights, data privacy, and digital copyright are still rarely addressed in teacher training, so that some educators are unclear about the limits of student data use and the ownership status of materials created with the help of AI (Gallego-Arrufat et al., 2024; Kol & Şenöz, 2025). This has the potential to lead to ethical and legal violations, as well as influence how teachers choose and prioritize the AI models used in the classroom. Teachers with better digital rights literacy and understanding of copyright ownership are expected to be more critical and selective in determining their AI model

preferences. They usually consider data security aspects. In addition, clarity of licensing and transparency of technology use are also important considerations. Conversely, teachers with lower literacy levels tend to choose AI models primarily based on ease of access or popularity (Allen & Kendeou, 2023). However, to date, there have been few empirical studies that specifically map the relationship between digital rights literacy, understanding of copyright ownership, and AI model preferences among teachers, with a focus on the Indonesian education setting. Therefore, more targeted research on these variables is needed.

To address low literacy and teacher readiness for the use of AI, it is essential to enhance competencies, particularly technical understanding, ethics, and collaboration. The application of an AI literacy competency framework is a strategic solution because it emphasizes the ability to understand, manage, and use AI responsibly in the context of education (Chiu et al., 2024). This framework includes data literacy, human-AI collaboration, and ethical awareness that need to be adapted according to the characteristics of educators (Chee et al., 2025). This strengthening can be done through competency-based training and learning communities that encourage teachers to continue adapting to technological changes. The Bekasi region is a relevant location because the schools in this area have adopted educational technology at a reasonably higher rate through various digital learning media and professional development programs for teachers. However, at the same time, there is still a gap in digital literacy and the use of AI-based technology among educators (Partasiwi et al., 2023; Sari et al., 2025). This condition makes Bekasi an ideal location to implement and evaluate the effectiveness of an AI literacy improvement model that is oriented towards teachers' readiness to face artificial intelligence-based learning transformation.

Based on the above description, this study focuses on analyzing the perspectives of teachers in the Bekasi area on the use of AI in learning by reviewing three main aspects, namely digital rights literacy, ownership of creations, and AI model preferences. Specifically, this study aims to (1) describe the level of digital rights literacy, understanding of copyright ownership, AI model preferences, and teachers' perceptions of the use of AI in learning, and (2) analyze the relationship and influence of digital rights literacy, copyright ownership, and AI model preferences on teachers' perceptions of the use of AI in learning. To achieve these objectives, a quantitative approach using a survey method was used to obtain systematic and measurable data on teachers' perceptions of the use of AI in the context of education.

METHOD

This study uses a quantitative approach that aims to obtain an empirical description of teachers' perceptions regarding the use of AI in learning. A quantitative approach was chosen because it is systematic, measurable, and can be analyzed using statistical techniques, enabling researchers to identify general patterns that emerge from the respondents' data. The method used is a cross-sectional survey, which is a study that collects data at a specific point in time to examine the relationship between variables without looking at changes over time (Sofya et al., 2024). Thus, this study uses a questionnaire as the main instrument for data collection. The statements are taken from the following previous studies (Table 1).

Table 1. Survey statement items

Variable	Statements	Reference
Digital Rights Literacy	I understand the ethical limitations of using AI-generated content.	(Ardi & Bintari, 2024)
	I am careful about providing personal data when using AI-based applications.	(Ardi & Bintari, 2024)
	I read the privacy policy before using an AI platform.	(Fathni et al., 2023)
Ownership of Creations	I understand that teachers must remain active even though AI assists in material creation.	(Ng et al., 2023)
	I use AI creations only as support, not as the main work.	(Ainiyah et al., 2024).
	I understand that teachers must remain active even though AI assists in material creation.	(Ng et al., 2023)
AI Model Preferences	I find that the accuracy of AI results varies between different models (types of AI).	(Al Mashagbeh et al., 2024)
	I prefer to use AI that is easy to operate and responsive.	(Bora et al., 2024)
	I use AI that is available for free rather than the paid version.	(Fathni et al., 2023)
Teacher's perspective	I have tried using AI (e.g., ChatGPT, Google Gemini, Copilot, etc.) for personal or learning purposes.	(Konecki et al., 2024)
	I have knowledge and understanding of the basic concepts of how AI works.	(Konecki et al., 2024)
	I am able to operate AI features (ChatGPT, GeminiAI, etc.).	(Kaplan-Rakowski et al., 2023)
	I have difficulty/do not fully understand how AI works.	(Karimov et al., 2024)
	I am concerned about becoming too dependent on AI.	(Chounta et al., 2022)
	AI makes my teaching process easier compared to traditional methods.	(Reina-Parrado et al., 2025)
	AI can enrich the variety of teaching methods and teaching materials.	(Konecki et al., 2024)
	I am afraid that AI will replace my job in the future.	(Konecki et al., 2024)
	I feel that the use of AI in learning actually increases my workload.	(Ding et al., 2025)
	AI saves me time in preparing teaching materials and assessments.	(Chounta et al., 2022)
	The presence of AI does not reduce social interaction and emotional bonds between me	(Ahn, 2025)

The research population consisted of all elementary school teachers in the Bekasi area, totaling 25,991. Specific criteria were used for the purposive sampling technique employed in this study, namely elementary school teachers who had used AI in teaching in the Bekasi area. Purposive sampling was chosen based on the consideration that only teachers who had direct experience with AI were relevant to providing data in line with the research objectives. Sample size was assessed using the Slovin formula, which is commonly used in quantitative research to calculate sample size by considering a certain margin of error (Santoso, 2023). Using the Slovin formula, the following applies:

$$n = \frac{N}{1 + N(e)^2} \quad (1)$$

where n indicates the sample size, N is the total population, and e represents the margin of error or tolerated error rate. In this study, the value of e is 5% with an accuracy rate of 95%, as it is an educational study. The number of respondents was set at 394 teachers, which was considered adequate to represent the research population according to the specified criteria.

The research instrument used was a questionnaire, which had previously undergone a validity test to ensure that each question item was able to measure the intended construct. This questionnaire was compiled based on indicators formulated from 15 previous studies, so that the questions used had a strong theoretical basis. The questionnaire consisted of 20 items (adjusted to the number of indicators that had been determined). Based on the validity test results, every statement item had an R value ranging from 0.407 to 0.836, all of which were beyond the table r value of 0.361. In addition, all Sig. values were in the range of 0.000 to 0.026, which is less than 0.05. Thus, all 20 statement items are declared valid and suitable for use as instruments in this study. The reliability test results for all 20 statements/items were 0.924, which falls into the highly reliable category. Therefore, the Cronbach's Alpha value is > 0.6 . These findings indicate that the questionnaire used shows a very satisfactory level of stability and internal consistency, so it can be used effectively. To test the instrument's quality, Pearson correlation was used for a validity test and Cronbach's alpha was used for a reliability test. This ensured the reliability and internal consistencies of each question. To clarify and provide context for the data, the first step was descriptive analysis (Mean, Median, and Std. Deviation) to describe the characteristics of the respondents and the response patterns for each construct and to detect issues with the initial data quality.

Data processing in this study used SPSS 23 software because this program has complete statistical analysis capabilities and is easy to operate, making it suitable for processing quantitative data from research questionnaires. The analysis began with a data normality test using One-Sample Kolmogorov-Smirnov, Pearson Correlation Between Independent Variables, and Multiple Linear Regression.

In addition to inferential analysis, descriptive analysis was also conducted by calculating the mean, median, and standard deviation for each research variable. The mean values were then converted into general categories based on the theoretical score range of each variable. The minimum theoretical score was obtained from the number of items

multiplied by the lowest score on the Likert scale (1), while the maximum theoretical score was obtained from the number of items multiplied by the highest score (5). The score range (maximum score minus minimum score) was then divided into three equal intervals to obtain the categories of low/fair, good, and high/very good.

RESULTS AND DISCUSSION

The results of the data analysis aimed at describing the perceptions of elementary school teachers in the Bekasi area regarding the use of AI in learning are presented in this section. The analysis was conducted descriptively using the SPSS 23 program, focusing on three main aspects, namely digital rights literacy, ownership of creations, and AI model preferences. The data collected through questionnaires was analyzed to obtain the mean and percentage for each indicator in order to identify general trends in teachers' perceptions. The results were then discussed comparatively with previous research findings to strengthen the interpretation and contributes to a more thorough awareness of the use of AI in primary education in the Bekasi Regency and City. There were 394 elementary school teachers from two administrative areas in Bekasi, namely Bekasi Regency and Bekasi City, who participated in this study. All respondents were active teachers who had used or had experience in utilizing AI in the learning process. The distribution of respondents based on their teaching areas is presented in Table 2.

Table 2. Respondent characteristics based on teaching region

Teaching Area	Frequency (f)	%
Bekasi District	216	54.5
Bekasi City	178	45.5
Total	394	100

Based on Table 2, it can be seen that most respondents came from Bekasi Regency (54.5%), while Bekasi City contributed 45.5% of the total respondents. This distribution shows that teacher participation was relatively balanced between the two administrative areas, with a slightly higher proportion in Bekasi Regency. This condition illustrates the wider distribution of elementary schools in regencies compared to urban areas, so that the results of this study can reflect the perceptions of teachers from two different educational contexts, both in terms of environment and access to learning technology.

The descriptive analysis in this study includes various calculations to determine the distribution of data found in the four research variables. Descriptive analysis was conducted to see the general trends of each research variable, namely digital rights literacy (X₁), ownership of creations (X₂), AI model preferences (X₃), and perceptions of AI use in learning (Y). The results of the analysis are presented in Table 3.

Table 3. Results of descriptive statistical analysis

Variable	N (Valid)	Mean	Median	Std. Deviation	General Category
Digital Rights Literacy (X ₁)	394	31.61	32.00	3.820	Tall
Ownership of Creations (X ₂)	394	8.49	8.00	1.483	Good
AI Model Preferences (X ₃)	394	8.04	8.00	1.599	Good

Perceptions of AI Use (Y)	394	9.37	10.00	2.014	Very Good
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Descriptive statistical analysis was conducted to provide an overview of the characteristics of the data for each research variable, namely digital rights literacy (X_1), ownership of creations (X_2), AI model preferences (X_3), and teachers' perceptions of the use of AI in learning (Y). Based on the results of data processing of 394 valid respondents, the average value of digital rights literacy was 31.61 with a median of 32.00 and a standard deviation of 3.820. These findings suggest that the majority of teachers have a solid grasp on digital rights, privacy, and data security in the context of AI-based learning. The variable of creation ownership had an average of 8.49 with a median of 8.00 and a standard deviation of 1.483, indicating that teachers' awareness of digital work protection is already quite good, although there are still variations in understanding among respondents.

Meanwhile, teachers' preferences for AI models showed an average value of 8.04 with a median of 8.00 and a standard deviation of 1.599, indicating a positive tendency among teachers toward the use of AI models in the learning process. Teachers' perceptions of AI use had an average of 9.37 with a median of 10.00 and a standard deviation of 2.014, reflecting a very positive and relatively consistent view of the application of artificial intelligence technology in the educational environment. Overall, these descriptive results confirm that teachers in the Bekasi area have a high level of digital literacy, ethical awareness, and acceptance of AI, thus providing a strong foundation for further inferential analysis through normality tests, Pearson correlations, and multiple linear regression.

After obtaining descriptive statistics for each research variable, the next step is to conduct a classical assumption test to ensure the data is suitable for analysis using parametric statistical techniques. This assumption test begins with a data normality test, which aims to determine whether the distribution of data from each research variable (digital rights literacy, creation ownership, AI model preferences, and perceptions of AI use) is normally distributed. The results of the normality test form the basis for determining the further analysis method—whether to use parametric tests such as Pearson's correlation and linear regression, or non-parametric tests if the data is not normally distributed. A summary of the normality test results is presented in Table 4.

Table 4. Normality test results

Unstandardized Residual		
N		394
Normal Paramaters ^{a,b}	Mean	0.000
	SD	1.607
Test Statistic		0.044
Asymp. Sig. (2-tailed)		0.59

Based on the results of the normality test using the One-Sample Kolmogorov–Smirnov Test, a significance value of $0.059 > 0.05$ was obtained, indicating that the residual data is normally distributed. Thus, the normality assumption is fulfilled and the analysis can be continued using parametric statistical tests, namely the Pearson correlation test to determine the relationship between variables and the multiple linear regression test to see the effect of independent variables on dependent variables.

Next, we conducted a Pearson correlation test to examine the relationship between the independent variables, namely digital rights literacy (X1), ownership of creations (X2), and AI model preferences (X3). This test aimed to identify whether the three independent variables had a significant linear relationship with each other and to ensure that there was no multicollinearity before performing multiple linear regression analysis. The Pearson correlation coefficient (r), ranging from -1 to +1, signals a strong positive relationship when its value is close to +1, and a strong negative relationship when the value is near -1. Table 5 displays the results of the correlation test between the independent variables.

Table 5. Results of Pearson's correlation

Relationship Between Variables	Pearson Correlation (r)	Sig. (2-tailed)	N
(X1 - X2)	0.472	0.000	394
(X1) - (X3)	0.267	0.000	394
(X2) - (X3)	0.151	0.003	394

All relationships between independent variables are positive and show a significant correlation at the 99% confidence level ($p < 0.01$), as seen in the Pearson correlation test results in Table 5. The relationship between digital rights literacy (X1) and ownership of creations (X2) has a correlation coefficient of $r = 0.472$, which is classified as moderate. This means that the higher the teachers' digital rights literacy, the higher their awareness of ownership of creations in the context of artificial intelligence use. This relationship shows that increasing digital rights literacy improves teachers' technical competence and their understanding of ownership rights, such as copyright, attribution, and reuse of content generated by AI. This conclusion shows that, in practical terms, training programs that emphasize digital ethics and law will help promote more responsible use of AI in the classroom, as teachers who are knowledgeable about digital rights tend to be more cautious when claiming, modifying, or disseminating AI-based works.

Furthermore, the relationship between digital rights literacy (X1) and AI model preferences (X3) shows a value of $r = 0.267$, which is weak but significant, indicating that an increase in teachers' understanding of digital rights is followed by an increase in preferences for the use of AI models in learning, although not very strong. This correlation, which is not very strong but significant, shows that, in addition to digital rights literacy, other factors such as technology affordability, infrastructure availability, perceived usefulness, and teachers' direct experience with various AI models and tools also determine their tendency to adopt certain AI models (Taheri et al., 2025). In order for this increased understanding to truly result in more appropriate and responsible AI adoption, the strengthening of digital rights literacy needs to be integrated with the development of AI literacy and digital citizenship that emphasizes ethical aspects, data privacy, and the professional responsibility of teachers (Iskandar et al., 2025; Sperling et al., 2024).

Meanwhile, the relationship between ownership of creations (X2) and AI model preferences (X3) shows a very weak correlation ($r = 0.151$) but remains significant ($p = 0.003$), indicating that the factor of ownership of creations has a small influence on AI model

preferences. As teachers' knowledge of digital rights increases, they tend to choose or support the use of AI models in teaching, although the relationship is relatively limited. Since all correlation coefficient values are below 0.80, it can be concluded that there is no multicollinearity between the independent variables, so the analysis can be continued with a multiple linear regression test to examine the simultaneous influence of the three variables on the perception of AI use in learning.

A multiple linear regression test is the next step to be performed once it has been determined that the data is normally distributed and there is no multicollinearity present among the independent variables. This test aims to determine the magnitude of the influence of each independent variable, namely digital rights literacy (X1), ownership of creations (X2), and AI model preferences (X3) on the dependent variable of the perception of AI use in learning (Y) simultaneously and partially. The regression analysis was performed using the SPSS 23 program with the Enter method, and the test results are shown in Table 6.

Table 6. Multiple linear regression model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.600	0.360	0.355	1.613

Based on Table 7, the multiple correlation coefficient (R) value of 0.600 indicates a fairly strong relationship between digital rights literacy, ownership of creations, and AI model preferences together with teachers' perceptions of the use of AI in learning. The R Square value of 0.360 indicates that 36.0% of the variation in teachers' perceptions of AI use can be explained by these three independent variables, while the remaining 64.0% is influenced by other factors outside the scope of this study. Meanwhile, the Adjusted R Square value of 0.355 shows that the resulting regression model is quite stable and remains valid when generalized to a broader population. The Std. Error of the Estimate value of 1.613 indicates that the average deviation between the teacher perception values predicted by the model and the actual values is still within acceptable limits. Thus, the multiple linear regression model used can be said to have adequate explanatory power to describe the multiple relationships between the three independent variables and teacher perceptions.

Table 7. F test results (ANOVA) multiple linear regression

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	570.643	3	190.214	73.124	0.000
	Residual	1,014.486	390	2.601		
	Total	1,585.129	393			

Based on Table 7, the calculated F value of 73.124 with a significance of 0.000 (< 0.05) indicates that digital rights literacy, ownership of creations, and AI model preferences simultaneously have a significant effect on teachers' perceptions of the use of AI in learning.

This means that the multiple linear regression model used in this study is appropriate (fit) to explain the multiple relationships between the three independent variables and teachers' perceptions as the dependent variable.

Table 8. Multiple linear regression coefficients

Model	Variabel Independen	B	Beta	t	Sig.
1	(Constant)	-1.099	–	-1.499	0.135
	Digital Rights Literacy	0.243	0.469	9.943	0.000
	Ownership of Creations	0.254	0.188	4.081	0.000
	AI Model Preferences	0.075	0.059	1.409	0.160

The results of multiple linear regression analysis show that only some of the independent variables have a significant effect on teachers' perceptions of the use of AI in learning. Digital rights literacy (X_1) and ownership of creations (X_2) have a positive and significant effect (Sig. < 0.05), while AI model preference (X_3), although positive, does not show a significant effect (Sig. > 0.05). These findings indicate that digital rights literacy and awareness of intellectual property ownership are the main factors explaining the variation in teachers' perceptions of AI use, while preference for AI models does not contribute significantly when analyzed together with other variables.

The digital rights literacy variable (X_1) has an unstandardized regression coefficient (B) value of 0.243 with a t value of 9.943 ($p < 0.001$) and a standardized beta coefficient of 0.469. In practical terms, the coefficient $B = 0.243$ means that for every one-point increase in the digital rights literacy score, with other variables held constant, there will be a 0.243-point increase in teachers' perceptions of AI use in learning. The standardized beta value of 0.469 indicates that digital rights literacy has the strongest positive influence on teachers' perceptions compared to the variables of creation ownership and AI model preferences. This shows that improving teachers' ability to understand digital rights, privacy, and data security has a significant effect on increasing positive perceptions of AI application in learning. These results are in line with the views of Allen and Kendeou (2023) that teachers' understanding of ethics and digital rights is the main foundation for building responsible AI literacy in the educational environment.

The variable of ownership of creations (X_2) also had a positive and significant effect with a value of $B = 0.254$, $t = 4.081$, and Sig. = 0.000, as well as a beta coefficient of 0.188. These findings indicate that the higher the teachers' awareness of digital work protection and content attribution, the more positive their attitudes toward the use of AI in learning. These results are consistent with the research by Chee et al. (2025), which confirms that understanding the legal aspects and attribution of digital content can increase educators' confidence in using smart technology ethically.

Unlike the previous two variables, AI model preference (X_3) has a regression coefficient $B = 0.075$ with a t-value = 1.409 and Sig. = 0.160 (> 0.05), as well as a beta coefficient of 0.059. Mathematically, this B coefficient indicates that every one-point increase in the AI model preference score is only associated with a 0.075-point increase in

the teacher's perception score when other variables are constant, but this effect is not statistically significant. This shows that although the direction of the influence is positive, teachers' preferences and comfort with AI models do not yet have a significant influence on their perceptions of AI use when analyzed together with digital rights literacy and ownership of creations. These findings indicate that emotional acceptance and preference for technology alone are not sufficient to form a positive perception of AI use in learning if they are not accompanied by a strong understanding of data protection and the digital rights of students (Torres-Hernández & Gallego-Arrufat, 2023) and the principles of intellectual property rights and ownership of works that must be upheld by educators (Zafar et al., 2025).

Overall, the regression model obtained is $Y = -1.099 + 0.243 X_1 + 0.254 X_2 + 0.075 X_3$. This equation shows that all regression coefficients are positive, so that an increase in digital rights literacy, awareness of copyright ownership, and preference for AI models in general tends to be followed by an increase in teachers' perceptions of the use of AI in learning. However, based on the results of partial testing, only digital rights literacy and ownership of creations have a significant effect, while preference for AI models does not contribute significantly to explaining teachers' perceptions when controlled by the other two variables.

Overall, the results of this study indicate that the multiple linear regression model involving digital rights literacy, ownership of creations, and AI model preferences simultaneously has a significant effect on teachers' perceptions of the use of AI in learning ($F = 73.124$; $\text{Sig.} = 0.000$). The R Square value of 0.360 in Table 6 shows that simultaneously, digital rights literacy, creation ownership, and AI model preferences contribute 36.0% to the variation in teachers' perceptions of the use of AI in learning, while the remaining 64.0% is influenced by factors outside this research model. However, when viewed partially, only digital rights literacy (X_1) and ownership of creations (X_2) had a positive and significant effect on teachers' perceptions, while AI model preference (X_3), although positive, did not show a significant effect ($\text{Sig.} = 0.160$). These findings confirm that the readiness of teachers in Bekasi to integrate AI is not only determined by their technical ability to use digital devices, but primarily by their level of ethical literacy and digital legal awareness. This is in line with the views of Xu and Ouyang (2022), who view the education system as a complex adaptive system, where the successful adoption of technological innovations is influenced by the interaction between human factors, technology, and the social environment. In this context, teachers act as adaptive agents who not only operate technology but also interpret its ethical and pedagogical implications in their daily teaching practices.

The dominant influence of digital rights literacy (X_1) on teachers' perceptions shows that a good understanding of data privacy, digital security, and the ethics of technology use is the main foundation for the responsible adoption of AI in schools. Teachers with high levels of digital rights literacy tend to be able to critically assess the reliability and risks of AI-based technology use, thereby fostering a positive perception of its benefits in learning. These results are consistent with the research by Allen and Kendeou (2023), which confirms that digital rights literacy plays an important role in building teachers' trust and readiness to face technological disruption in the classroom. However, unlike the findings of Pilco et al. (2022), who found that digital literacy does not yet have a significant impact on teachers in rural areas, the results of this study show a stronger effect because Bekasi has a relatively high level of technology exposure. These findings show that digital literacy readiness is

greatly influenced by the social context and availability of technological infrastructure in the teacher's work environment.

The variable of ownership of creations (X_2) also contributes significantly to teachers' perceptions. This indicates that awareness of copyright and attribution of digital content increases a sense of security and professional responsibility in using technology. This finding is in line with the views of Chee et al. (2025), who explain that understanding the legality and attribution of content can strengthen teachers' confidence to innovate through AI-based media without violating ethical principles. In an empirical context, this is reflected in the practices of some teachers in the Bekasi urban area who have utilized platforms such as ChatGPT and Canva AI to design interactive learning media, but still require guidance in terms of source attribution and student data protection. The AI model preference (X_3) in this study was not proven to have a significant effect on teachers' perceptions when analyzed together with digital rights literacy and copyright ownership. This condition suggests that teachers' emotional acceptance and comfort with technology alone are not sufficient to form positive perceptions of AI use if they are not accompanied by a strong understanding of digital rights and copyright ownership. Theoretically, these findings are consistent with the Technology Acceptance Model (Davis, 1989) framework, but they show that in the context of elementary school teachers in Bekasi, affective perceptions of usefulness and ease of use need to be supported by ethical and legal foundations in order to be truly reflected in perceptions of AI use.

Integratively, the results of this study indicate that digital rights literacy, awareness of intellectual property rights, and preference for AI models are three dimensions that conceptually complement each other in shaping teachers' readiness to face the transformation of artificial intelligence-based learning. Although empirically only the first two dimensions have been proven to have a significant effect, preference for AI models still plays a complementary role that can strengthen teachers' acceptance when supported by adequate ethical and legal understanding. Digital rights literacy serves as a knowledge foundation that enables teachers to understand the moral and legal boundaries in the use of AI; awareness of copyright ownership reinforces professional responsibility for the authenticity and attribution of work; while preference for AI models reflects teachers' affective readiness to utilize smart technology in a pedagogical context. The synergy between these three aspects produces a more complete picture of readiness—where the ability to use AI ideally goes hand in hand with ethical awareness and confidence to innovate in the classroom. Conceptually, these findings expand the AI literacy framework, which has thus far emphasized technological aspects (Chiu et al., 2024), by emphasizing that ethical and legal dimensions have a stronger influence than affective dimensions alone in shaping teachers' perceptions of AI use.

This study provides empirical and theoretical contributions to the development of AI literacy in education, particularly in understanding the factors that shape teachers' perceptions of AI use. Empirically, this study shows that teacher readiness depends not only on technical skills in operating technology, but primarily on an understanding of the underlying ethical and legal awareness of digital technology, accompanied by a positive preference for complementary technology. Meanwhile, theoretically, the results of this study expand the conceptual framework of AI literacy by emphasizing the importance of integrating technical, ethical, legal, and affective dimensions, and showing that ethical and

legal dimensions play a more decisive role in the context of elementary school teachers. These results also provide a basis for educational institutions and policymakers to design training programs that balance technical, legal, and moral aspects in the use of smart technology. However, this study has limitations in its geographical scope, which only covers the Bekasi area, and its use of a quantitative approach, so the results cannot be fully generalized. Therefore, further research is recommended to adopt a mixed methods approach involving observation and in-depth interviews to explore affective and pedagogical dimensions that have not been comprehensively revealed. In addition, cross-regional and cross-level education studies are also important to compare teachers' perception patterns and different levels of technology adoption. Furthermore, interdisciplinary research combining the fields of education, digital law, and technology psychology needs to be developed to formulate evidence-based national AI literacy policies oriented towards ethical learning in the era of artificial intelligence.

CONCLUSION

Based on the results of the study, teachers' opinions on digital rights literacy, creative ownership, and AI model preferences collectively have a positive and significant effect on teachers' perspectives on AI in learning. Digital rights literacy emerged as the most dominant factor driving teachers' positive attitudes toward AI, followed by awareness of creative ownership and preferences for AI model characteristics. Descriptively, teachers in Bekasi demonstrate a high level of digital rights literacy and a very good perception of AI utilization, but the relationship between variables shows varying strengths, so that the influence is not entirely deterministic. The findings confirm that teachers' readiness to adopt AI is not only a matter of technical skills, but also involves an understanding of ethics, digital law, and emotional comfort in using technology.

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