Eğitimde Üretken Yapay Zekâ: Öğretmen Tutumları ve Belirleyici Değişkenler

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Öz

Yapay zekâ (YZ), eğitimde öğretim süreçlerini geliştiren ve öğretmenlerin öğrencilerle olan etkileşim biçimlerini dönüştüren güçlü bir araç haline gelmiştir. Eğitimde YZ teknolojilerinin etkili bir şekilde kullanımı, öğretmenlerin pedagojik becerilerini destekleyerek öğrenci başarısını ve motivasyonunu artırma potansiyeline sahiptir. Bu bağlamda, öğretmenlerin yapay zekâ kullanımına yönelik tutumları, eğitimde bu teknolojilerin kabul görmesi ve etkili biçimde hayata geçirilmesi açısından büyük bir önem taşımaktadır. Bu araştırma, öğretmenlerin eğitim sürecinde üretken YZ zekâ kullanımına yönelik tutumlarını ve bu tutumların çeşitli demografik değişkenlere göre değişimini incelemeyi amaçlamaktadır. Araştırma, 159 öğretmen ile nedensel karşılaştırma modeli temelinde gerçekleştirilmiştir. Veri toplama aracı olarak YZ kullanımına yönelik geliştirilmiş olan tutum ölçeği kullanılmıştır. Araştırma bulgularına göre, öğretmenlerin YZ kullanımına yönelik tutumları; yaş, kıdem yılı, YZ kullanım durumu ve YZ kursu almış olma durumuna göre anlamlı farklılıklar göstermektedir. Bununla birlikte, öğretmenlerin yapay zekâ kullanımına yönelik tutumlarının cinsiyet, kademe, okul türü ve okul yeri değişkenlerine göre anlamlı bir değişim göstermediği belirlenmiştir. Bu bulgular, öğretmenlerin YZ teknolojilerine yönelik tutumlarının, belirli kişisel ve mesleki faktörlere bağlı olarak şekillendiğini ve bu faktörlerin eğitimde YZ entegrasyonu sürecine önemli etkilerde bulunabileceğini ortaya koymaktadır.

Generative Artificial Intelligence in Education: Teachers' Attitudes and Influencing Variables

Abstract

Artificial Intelligence (AI) has emerged as a powerful tool in education, enhancing instructional processes and reshaping teachers' interactions with students. The effective integration of AI technologies can support teachers' pedagogical competencies, thereby increasing student achievement and motivation. In this context, teachers' attitudes toward AI play a crucial role in the adoption and successful implementation of these technologies in educational settings. This study examined teachers' attitudes toward the use of AI and investigated whether these attitudes differed across various demographic variables. The research employed quantitative, causal-comparative design and was conducted with 159 teachers. Data were collected using an attitude scale toward AI. The findings revealed that teachers' attitudes toward AI in education differed significantly according to age, years of professional experience, current use of AI, and participation in AI-related training. In contrast, no statistically significant differences were found based on gender, school level, school type, or geographic location. These findings suggest that teachers' attitudes toward AI technologies are shaped by personal and professional factors, which may have significant implications for integrating AI into educational practices.

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Introduction

Humans are considered to be superior to other living beings thanks to their ability to learn, reason, think analytically and make meaning by establishing connections between events (TDK, 2025). This superiority is based on 'intelligence', which enables individuals to make choices according to the situation they are in. Since the mid-20th century, the question of whether human intelligence can be imitated by machines has become an important topic of discussion in the scientific world. The question "Can machines think?" posed by the British computer scientist Alan Turing in 1950 triggered the birth of the concept of artificial intelligence (AI) (Turing, 1950). Subsequently, in 1956, John McCarthy clearly defined the concept of artificial intelligence for the first time in a seminar he organized at the Dartmouth Conference (Alpaydın, 2013; Russel & Norvig, 2021).

Today, artificial intelligence technologies aim to produce systems that can imitate human intelligence through intelligent machines. AI encompasses systems that have the capacity to imitate human mental skills such as problem solving, understanding, explanation, generalization and learning from experience (Meço & Coştu, 2022; Nabiyev, 2016). In this context, artificial intelligence includes not only the ability of computers to perform complex operations, but also the ability to think, speak and perform tasks like humans (Khalil, 2024). Artificial intelligence is a science and technology that creates intelligent machines and computers. Accordingly, artificial intelligence offers innovative solutions in areas such as data analysis, machine learning and automation, increasing productivity and transforming every aspect of life (Çetin, Karakuş & Geçgel, 2024; McCarthy, 2007).

Artificial intelligence technologies are playing an increasing role in the field of education. Especially in teaching processes, these technologies are used in various areas such as creating individualized learning environments, providing instant feedback, monitoring student performance and freeing teachers from routine tasks (Arslan, 2020; Arık & Seferoğlu, 2020). In this context, artificial intelligence tools are frequently used in learning-teaching processes and in our daily lives. This situation makes it important to understand the level of knowledge of individuals about artificial intelligence technologies and their usage habits.

The adaptation of artificial intelligence technologies in educational institutions is gradually being ensured and the integration of these technologies into educational programs is gaining momentum. Using AI technologies in education increase the learning speed of individuals, contribute to personal learning experiences, and provide educators with efficiency in assessment processes (Akinwalere & Inanov, 2022). However, the effective use of these technologies depends on both the full integration of technology and teachers' perspectives and attitudes towards the use of artificial intelligence tools. When literature is examined, it is stated that teachers have positive attitudes towards artificial intelligence and are open to these tools despite their lack of sufficient usage knowledge (Uygun, 2024; Fakhar et al., 2022). On the other hand, it is seen that teachers who do not receive adequate development support from experts show resistance to the use of artificial intelligence tools or carry the risk of addiction (Göçmez, 2023).

Although there are some opinions that artificial intelligence tools can replace teachers (Edwards & Cheok, 2018; Çetin & Aktaş, 2021), another view that seems stronger is that these technologies will support and empower teachers instead of taking their roles. In this context, teachers can prepare educational materials, monitor individual student progress, and provide feedback to students more effectively in terms of time and effort in education and training processes with artificial intelligence tools (Aksakal Taşkıran, Emre & Özbek, 2024; Gülel, Sargın & Çetin, 2023).

Teachers' knowledge about the use of artificial intelligence and their awareness of these tools have a significant impact on their motivation and ability to integrate these technologies into their educational processes. Teachers who do not have sufficient knowledge of these technologies, are closed to development or have a negative perspective cannot be expected to use these tools effectively in educational environments (Uygun et al., 2024). This can lead to the educational potential of AI applications not being fully realized. Therefore, it is crucial for teachers to be more aware of AI and develop a positive attitude. When teachers understand and accept these technologies, it becomes easier to use them effectively in the classroom. In the literature, studies (Aksakal Taşkıran et al., 2024; Göçmez, 2023) emphasize that teachers' feelings about AI has a strong impact on using these tools in education.

In this context, examining how teachers feel about the use of AI in their teaching highlights the need for further research. It can help us better understand what teachers need and how things can be improved in this area. Although numerous studies have explored how artificial intelligence is used in education, research focusing specifically on teachers' attitudes toward these technologies remains limited. Accordingly, this study aims to examine teachers' attitudes toward the use of generative AI in education in relation to various demographic and professional factors.

The sub-problems of the research are formulated as follows:

Do teachers' attitudes toward the use of artificial intelligence differ significantly according to:
1. Gender,
2. Age,
3. School level (preschool, primary, secondary, high school),
4. Years of teaching experience,
5. Type of school (public, private),
6. Location of the school,
7. Previous experience with using artificial intelligence technologies, and
8. Previous participation in an artificial intelligence course?

Method

Research Design

The present study employed causal-comparative design, a quantitative research methodology. Causal-comparative studies aim to determine which variable may cause variations in another. Such studies are intended to test the impact of naturally existing differences on a dependent variable (Büyüköztürk, 2014). In this research, differences in teachers' attitudes towards generative AI tools, with regard to variables such as gender, years of experience, age, school level, school type, school location, prior use of AI, and prior participation in AI-related training.

Study Group

The study population comprises teaching staff employed in public and private schools during the 2024-2025 academic year. The population includes approximately 4,884 teachers. The sample comprises 159 teachers—84 women and 75 men—selected through convenience sampling. As a non-probability sampling technique, this

method involves selecting participants who are easily accessible and require minimal time and effort to include (Patton, 2014). The demographics of the teaching staff participating in the voluntary study are provided in Table 1.

Table 1. Demographic Characteristics of Study Group

Variable	Category	N	%
Gender	Female	84	52.8
	Male	75	47.2
Age	20-30	18	11.3
	31-40	44	27.7
	41-50	49	30.8
	51+	48	30.2
Professional Experience (years)	0-5	23	14.5
	6-10	16	10.1
	11-15	12	7.5
	16-20	27	17.0
	21-25	24	15.1
	26+	57	35.8
Educational level	Preschool	25	11.7
	Primary school	46	20.7
	Middle school	112	50.5
	High school	39	17.6
Type of school	Public	143	89.9
	Private	16	10.1
Location	City center	129	81.1
	District town	23	14.5
	Village	7	4.4
Previous AI usage	Yes	92	57.9
	No	67	42.1
AI Course Attendance	Yes	13	8.2
	No	146	91.8

The study group comprises a total of 159 teaching professionals who were in active employment during the 2024–2025 academic year. According to Table 1, the distribution by age variable is as follows: 11.3% of the participants are between 20–30 years old, 27.7% are between 31–40 years old, 30.8% are between 41–50 years old, and 30.2% are 51 years old and above. Furthermore, the majority of participants were middle school teachers employed in public schools located in urban areas. These characteristics suggest that while AI tools have been adopted to a certain extent within this demographic, formal training opportunities in this domain remain limited.

Data Collection Tool

The empirical data were obtained for the study through the 18-item "Teachers' Attitudes Toward the Use of Artificial Intelligence in Education Scale" developed by Aksekili and Kan (2024). The scale is a 5-point Likert scale, and the maximum score that can be obtained from the scale is 90. Although the scale developers indicated

that it comprises a three-dimensional structure, they also noted that the high correlation coefficients among the dimensions suggest a unidimensional structure. Therefore, they recommended that the data obtained through the scale could be evaluated based on the total score. In this study, the reliability analysis conducted with the obtained data revealed a Cronbach's Alpha reliability coefficient of .933, indicating a high level of reliability for the scale (Özbek, 2011). The administration of the scale was conducted by the researcher via Google Forms, utilising a voluntary participation approach.

Data Analysis

The normality of the dataset was determined through the examination of normal distribution curves, skewness, and kurtosis values, which concluded that the data followed a normal distribution.

Table 2. The Skewness and Kurtosis Values

	Skewness	*Kurtosis*
Teachers' attitudes toward the use of AI in education scale	-0.430	0.168

As shown in Table 2, the skewness and kurtosis values of the scale indicate that the dataset follows a normal distribution. In the data analysis, descriptive statistics such as percentage (%) and frequency (*f*) were used to describe the independent variables. In addition, independent samples t-tests were conducted for binary comparisons between groups, and one-way analysis of variance (ANOVA) was employed for comparisons involving more than two groups.

Findings

Examining Teachers' Attitudes Toward AI in Terms of Gender

In order to determine whether teachers' attitudes toward the use of AI differ based on the gender variable, independent samples t-test was conducted. The results of the analysis are presented in Table 3.

Table 3. Independent Samples t-Test Results for Attitudes Toward the Use of AI by Gender

Gender	*N*	$\bar{X}$	*SS*	*t*	*d*	*p*
Female	84	68.14	10.30	-1.115	157	.267
Male	75	70.06	11.45			

P<0.05

According to Table 3, it can be stated that gender does not have a statistically significant effect on attitudes toward the use of AI ($t_{(157)}$=-1.115; p>.05). This finding indicates that there is a convergence in perspectives between male and female teachers concerning the integration and utilisation of AI technologies within educational environments.

Teachers' Attitudes Towards AI by Age

The results of the analysis on whether teachers' attitudes towards the use of AI differ significantly according to age are presented in Tables 4 and 5.

Table 4. Descriptive Statistics for Teachers' Attitudes Toward the Use of AI by Age Variable

Age groups	N	$\bar{X}$	sd
20-30	18	72.94	7.72
31-40	44	70.90	11.40
41-50	49	71.67	9.15
51+	48	63.20	10.95
Total	159	69.05	10.87

When the mean scores of teachers' attitudes towards AI use by age groups were examined, the mean was found to be $\bar{X}$= 72.94 for the 20–30 age group, $\bar{X}$= 70.91 for the 31–40 age group, $\bar{X}$= 71.67 for the 41–50 age group, and $\bar{X}$= 63.21 for the 51 and above age group.

Table 5. Result of One-Way ANOVA for Attitudes Towards AI Use According to Age Variable

Source of Variance	Sum of Squares	df	Mean Square	F	p	η^2	Groups
Between Groups	2400.324	3	800.108	7.619	.001	.129	Between 51+ and 20-30
Within Groups	16277.273	155	105.015				31-40 41-50 age groups
Total	18677.597	158					

P<0.05

$F_{(3 - 155)}$ = 7.619, p <.05 indicates a statistically significant difference in attitudes towards AI use among age groups. To identify which groups showed significant differences, an LSD post-hoc multiple comparison test was conducted. According to the results of the LSD test, a significant difference in teachers' attitudes towards AI use was particularly found between those aged 51 and above and the other age groups. These findings indicate that teachers aged 51 and above have significantly lower attitudes towards AI use than other age groups. In contrast, no significant difference was found among the 20–30, 31–40, and 41–50 age groups. In order to determine the effect size the eta squared value (η^2 = .129) calculated. According to Cohen (1988), values of 0.01, 0.06, and 0.14 for eta squared represent small, medium, and large effects, respectively. Therefore, it can be said that age has a moderate to large effect on teachers' attitudes towards AI use (Cohen, 1988).

Teachers' Attitudes Towards AI by School Level

The results concerning whether teachers' attitudes towards artificial intelligence vary according to school level are presented in Table 6.

Table 6. Result of One-Way ANOVA for Attitudes Towards AI Use According to School Level Variable

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between Groups	48.183	4	12.046	.100	.982
Within Groups	18629.41	154	120.970		
Total	18677.60	158			

P<0.05

Table 6 shows that teachers' attitudes towards AI use do not differ significantly according to the school level they worked ($F_{(4, 154)}=$ .100, $p > .05$). This finding suggests that the educational stage—whether preschool, primary, secondary, or high school—does not play an important role in shaping teachers' perspectives on the integration of AI into educational practices. It is evident that teachers from all school levels hold analogous perspectives on the advantages, difficulties, and consequences of incorporating artificial intelligence within the classroom setting.

Teachers Attitudes Towards AI in Terms of Years of Professional Experience

A One-Way ANOVA was conducted to determine whether teachers' attitudes towards AI use differed by years of experience. The descriptive statistics and ANOVA results are presented in the following tables.

Table 7. Descriptive Statistics of Attitudes Toward AI Use in Terms of Years of Professional Experience

Professional Experience	N	$\bar{X}$	sd
0-5 years	23	72.43	7.72
6-10 years	16	70.68	13.92
11-15 years	12	69.00	8.06
16-20 years	27	70.55	11.19
21-25 years	24	72.50	8.98
26+ years	57	65.07	11.23
Total	159	69.05	10.87

Table 8. Result of One-Way ANOVA for Attitudes Towards AI Use According to Years of Experience Variable

Source of Variance	Sum of Squares	df	Mean Square	F	p	η^2	p
Between group	1556.122	5	311.224	2.781	.020	.083	Between 26+ years and 0-5
Within Groups	17121.476	153	111.905				16-20
Total	18677.597	158					21-25

P<0.05

The result of $F_{(5 - 153)} = 2.781$, $p < .05$ indicates a statistically significant difference in attitudes towards AI use among experience groups. The eta squared value calculated for effect size is $\eta^2 = .083$. Accordingly, the effect of years of experience on attitudes can be considered large. The LSD post-hoc multiple comparison test revealed a substantial discrepancy, particularly between teachers with 26 years or more of experience and those with 0–5, 16–20, and 21–25 years of experience. This finding suggests that teachers with 26 years or more of experience have significantly lower attitudes towards AI use compared to other groups with different experience levels.

Teachers' Attitudes Towards AI by School Type

To examine whether teachers' attitudes towards the use of AI differ significantly by school type (public or private), an Independent Samples t-Test was conducted. The results of the analysis are presented in Table 9.

Table 9. Result of Independent Samples t-Test for Attitudes Towards AI Use According to School Type Variable

Type of school	N	$\bar{X}$	SS	t	sd	p
Public	143	68.65	11.11	-1.391	157	.166
Private	16	72.62	7.83			

P<0.05

As illustrated in Table 9, there is no statistically significant correlation between school type (i.e. public versus private) and teachers' attitudes regarding AI utilisation ($t_{(157)}$=-1.391; p>.05). This indicates that whether a teacher works in a public or private school does not significantly influence their attitude towards the use of AI.

Teachers' Attitudes Towards AI by School Location

A One-Way ANOVA was conducted to determine whether teachers' attitudes towards AI use differed by school location. The results are presented in Table 10.

Table 10. Result of One-Way ANOVA for Attitudes Towards AI Use According to School Location Variable

Source of Variance	Sum of Squares	df	Mean Square	F	p
Between groups	430.818	2	215.409	1.842	.162
Within groups	18246.780	156	116.967		
Total	18677.597	158			

P<0.05

As demonstrated in Table 10, the results indicate that there is no significant discrepancy in teachers' attitudes towards AI utilisation based on their institution's location ($F_{(2-156)}$ = 1.842, p > .05). This finding suggests that the location of the school does not have any effect on teachers' attitudes towards AI use.

Teachers' Attitudes Towards Artificial Intelligence by AI Usage Status

To determine whether teachers' attitudes towards AI use differed by AI usage status, an Independent Samples t-Test was conducted. The results are presented in Table 11.

Table 11. Result of Independent Samples t-Test for Attitudes Towards AI Use According to AI Usage Status Variable

Prior AI Usage	N	$\bar{X}$	SS	t	sd	Cohen's d	p
Yes	92	72.65	9.22	5.148	126.204	0.86	.001
No	67	64.10	11.07				

P<0.05

The findings of this study suggest that the variable of prior experience with artificial intelligence has a statistically substantial impact on individuals' attitudes toward the subject ($t_{(126,204)}$=5.148; p<.05). Moreover, the effect size, as measured by Cohen's d, was 0.86. This finding indicates that individuals with prior experience of AI exhibit more favorable attitudes towards it, and this effect is considerably large (Cohen, 1988).

Teachers' Attitudes Towards AI by Previous AI Course Attendance

Table 12 presents the findings of the investigation into whether educators' perspectives on the utilisation of AI differ considerably based on their involvement in AI courses.

Table 12. *Teachers' Attitudes Towards AI Use According to AI Course Attendance Variable*

AI Course Attendance	N	$\bar{X}$	s	t	sd	Cohen's d	p
Yes	13	75.69	9.32	2.331	157	0.11	.021
No	146	68.45	10.83				

P<0.05

The outcome demonstrates that participating in an AI course exerts a statistically significant influence on perspectives concerning the utilisation of AI (t(157)=2.331; p<.05). However, calculated Cohen's d of 0.11 indicates a small effect size (Cohen, 1988). This finding implies that while the AI course contributes to shaping participants' perspectives on AI use, more extensive or sustained instructional interventions be required to achieve stronger attitudinal change.

Discussion and Conclusion

This study examined teachers' attitudes toward using AI in education regarding various variables. The variables considered potential influencers of teachers' attitudes toward AI technologies included gender, age, school level, years of professional experience, type of school, school location, AI usage status, and whether or not the teachers had received AI-related training. The findings revealed that some of these variables impacted attitudes toward AI use.

In relation to the gender variable, the study established that there was no statistically significant difference in teachers' attitudes towards the use of AI. This result is supported by findings from several studies. For instance, a study conducted by Eker and Halıcı Gürbüz (2024) revealed no substantial gender-based variations in attitudes towards artificial intelligence. Similarly, other studies (Mart & Kaya, 2024; Tan, Ceylan & Öztürk, 2023; Uyak, Uyak, Ürey, Keskin, Aymaz & Aydın, 2023; Qadri, 2014) also reported no significant differences in attitudes toward using AI based on gender. This may suggest that the increasing prevalence of technological tools, particularly AI-based applications, has reduced gender-based differences in teachers' attitudes toward these technologies.

The findings relating to professional experience revealed a significant association between teachers' length of service and their attitudes towards AI. Specifically, it was found that teachers with 26 or more years of experience had more negative attitudes towards the use of AI. This may indicate a tendency among experienced teachers to adopt a more cautious or reserved approach to adapting to new technologies. This finding is corroborated by previous studies, whose results demonstrate congruence (Arık & Seferoğlu, 2020; Çetin & Aktaş, 2021; Dülger, 2023; Tan et al., 2023). However, other research has shown that experienced teachers may exhibit similar attitudes to their younger colleagues, indicating that individual characteristics and personal inclinations may play a more decisive role than professional seniority in the process of adapting to technology (Acet, Şensiz, Bilir, Ciğerci, Çirişoğlu & Yeşil, 2024; Aksakal Taşkıran et al., 2024; Banaz & Demirel, 2024).

Teachers' attitudes towards AI did not differ significantly based on the school level at which they were employed. This suggests that teachers across different school levels may exhibit similar attitudes and that individual experiences may be more influential in shaping these attitudes. Moreover, the overall similarity in technological infrastructure and education-related practices throughout the country may contribute to the lack of significant differences across school types. Consistent with these findings, Burtgil (2024) observed no meaningful variation in teachers' attitudes toward AI based on the school level at which they were employed.

The analyses revealed that teachers' attitudes toward AI differed significantly by age. In particular, teachers aged 51 and above appeared more reluctant about using AI technologies. This may be due to emotional barriers in adapting to technological innovations or low levels of digital literacy. The results of the current study are compatible with the findings of Tan, Ceylan, and Öztürk (2023). Their study results demonstrated that younger teachers tend to have more favourable attitudes towards AI. However, other research (Aksakal Taşkıran et al., 2024) suggests that teachers' attitudes towards AI are not significantly affected by age.

This study found that having attended a course on AI is a significant determinant of teachers' attitudes towards AI technologies. Teachers who had received training in AI were found to have a more positive attitude towards these technologies, as well as being more innovation-oriented. This finding supports the assertion by Baker, Smith & Anissa (2019) that It is not enough for teachers to simply be aware of new technologies; they need continuous training and support to use these technologies effectively. In line with this, a study conducted by Aksongur and Bağrıacık-Yılmaz (2024) revealed that 74% of teachers stated they needed training support regarding AI use. However, studies in the literature indicate that AI training does not significantly impact teachers' overall perceptions and acceptance levels of AI technologies (Burtgil, 2024).

The study also revealed that attitudes towards the use of AI did not differ significantly between teachers from public and private schools. This may suggest that adopting AI in education is a general trend independent of school type (Burtgil, 2024). Likewise, the finding that teachers' attitudes towards the use of AI did not vary significantly across schools located in cities, towns, or villages indicates that access to educational technologies is becoming increasingly independent of geographical differences. Especially in recent years, with the growing digitalization in Türkiye and globally, teachers working in both rural and urban areas have been able to access similar levels of digital resources, online educational materials, and professional development opportunities. Online trainings offered under the Ministry of National Education's central policies, digital platforms such as EBA, and open-access digital content have enabled teachers to keep up with technological developments regardless of location (MoNE, 2023).

The findings also revealed that teachers' attitudes towards AI use differ significantly depending on whether they use AI technologies. This indicates that direct interaction with technology positively influences individuals' perceptions, adoption levels, and professional attitudes towards that technology. As supported by the literature, especially in innovative technologies, active usage experiences rather than passive knowledge acquisition strengthen teachers' self-efficacy perceptions and contribute to developing more positive attitudes (Burtgil, 2024).

In conclusion, the research examined teachers' attitudes towards AI use and identified significant differences based on specific individual and professional factors. It is found that teachers' attitudes were significantly influenced by

their age, professional experience, and previous AI usage status. More positive attitudes towards AI were shown by younger teachers and the teachers that have fewer years of experience in the profession. This suggests that age and years of experience play a crucial role in adopting new technologies. Furthermore, teachers who use AI technologies and have received training in this area have more positive attitudes about AI in education. This finding demonstrates that positive attitudes towards technology develop through knowledge, direct use and practice. By contrast, no major differences were identified related to gender, school type, school level or location. This suggests that teachers now have more equitable access to technology. Besides similar attitudes are developing regardless of location or institution type. The findings indicate that teachers' attitudes towards AI closely relate to their individual characteristics and professional development opportunities.

Recommendations

The study emphasises the necessity to broaden the scope of practical and teacher-centred in-service training opportunities to facilitate the effective integration of AI in education. In particular, mentoring models and initiatives aiming digital literacy should be promoted. They should support the technological adaptation of teachers with more professional experience. To enhance the use of AI tools within educational contexts, practice-based content should be included. This content should allow teachers to directly experience these technologies. Furthermore, modules on AI literacy and ethical use should be incorporated into teacher training programmes at education faculties so that future teachers are better prepared for these technologies.

It is important to note that, in addition to the significant findings, this study is subject to certain limitations. Firstly, the research was geographically constrained to the province of Aydin. In order to achieve more generalisable results, it is recommended that future studies be conducted with larger samples. Secondly, this study found that teachers who had participated in AI-related training had more positive attitudes towards AI use. Future research could investigate the content and quality of these courses that influence teachers' attitudes. Finally, it was found that teachers of relatively older age groups had less positive attitudes towards AI use. The reasons behind this effect of age on attitudes could be explored through a qualitative study.

Research Ethics

Contribution of Researchers

Conflict of Interest

Funding

The Ethical Commitee Approval

The necessary approval for the study was obtained from the Ethics Committee for Educational Research of Aydın Adnan Menderes University (approval date: 14,05, 2025; approval number: :2025/6-I).

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