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Role Of Artificial Intelligence In Education From The Perspectives Of Teachers

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Abstract

This study investigated the influence of Artificial Intelligence (AI) on education through the perspectives of 390 teachers from both public and private schools in the United States. The teachers shared their thoughts via a survey that represented their insights on the significance of AI in education and the obstacles associated with its implementation. Most teachers agreed that AI has advantages over traditional teaching strategies, providing individualized learning support to improve student performance. However, they also face challenges such as assistance and funding along with insufficient training with public school teachers particularly expressing concerns due to budget limitations. The analysis highlights the need for training programs and organizational guidelines to support the incorporation of AI in education by stressing the importance of proactive preparation to tackle existing challenges and make the most of AI capabilities.

Keywords: artificial intelligence, education, students, integration, K-12 teachers.

Introduction

Artificial intelligence (AI) symbolizes the most significant technological advancement in contemporary history, resulting in revolutionary shifts across all industries. AI involves the study and application of creating computational systems that mimic human cognitive functions and decision-making through advanced algorithms and data processing approaches (Prasad et al., 2023; Schoser, 2023; Gignac et al., 2024). AI technology automates administrative duties, freeing up teachers to concentrate on a variety of teaching approaches, thereby improving students' educational experiences (Ahmad, 2022; Alam, 2021; Alam, 2023; Johnson, 2008; Chen et. al., 2020; Igbokwe, 2023; Ismail et. al., 2024; Liua et. al., 2021; Owoc et al., 2021; Pedro et. al., 2019). This also reduces the burden on instructors, allowing them to concentrate on their core tasks of conveying information, enhancing instructional quality, and improving students' skills (Fullan et al., 2023). Additionally, AI technologies enhance students' learning experience by making instructional resources more accessible, providing rapid learning opportunities, and allowing for real-time progress evaluations (Holmes et al., 2019). Automated feedback for learners is especially valuable since it allows improvements that human reviewers might overlook (Holmes et al., 2019; Chen et. al., 2020; González-Calatayud et. al., 2021; Yuan et. al., 2022). Incorporating elements of games and interactive activities into education strategies with AI technology enhancements can boost student participation by 40%. (Patel, 2021). Furthermore, students can learn at their own pace, satisfying a variety of needs and preferences. This flexibility enhances educational outcomes by allowing teachers to adjust classes to each student's specific requirements (Alam, 2021).

Though AI does provide great benefits to the learning and teaching processes, educators and legislators must be aware of the inequity resulting from the unchecked use of technology, as using AI technology in the classroom raises serious moral questions and issues. The use of AI technology for data collecting and analysis raises privacy concerns since explicit consent is not always required, therefore it is essential to evaluate data protection protocols and verify adherence to legal and ethical standards (Li, 2024; Yanamala et. al., 2024; Wu, 2024; Wu et. al., 2024). The excessive reliance on technology in educational decision-making can hinder teachers'

understanding of the human factors that affect student behavior, thereby limiting their capacity to make informed decisions based on this understanding (Altinay et. al., 2023; Bukar et. al., 2024; Schoeffer et. al., 2024; Zhai et. al., 2024).

It is essential to recognize both the potential benefits and difficulties of integrating AI into education in this rapidly developing technological world. Collaboration between educators, policymakers, and technological professionals guarantees that AI improves methods while putting ethics and human connection first and necessitates the establishment of laws and regulations to oversee the integration of AI into educational systems. The standards should mandate transparency on the algorithms utilized, emphasizing the incorporation of cultural and social dimensions during the development phase simultaneously safeguarding the rights of both educators and pupils (Pedro et. al., 2019). AI does not exacerbate educational inequities by meticulously considering these processes but rather fosters equal opportunities for all individuals in society while preserving the essential human component of the learning process (Holmes et al., 2022; Nguyen et. al., 2023). Schools and universities must embrace a blend of contemporary technology and the timeless role of educators in their approach to teaching and learning to create a rounded educational journey that improves students' skills while prioritizing important human connections and interactions. It is vital to establish an atmosphere where technology works hand in hand with teaching methods of overshadowing them.

Furthermore, the substantial expenses associated with setting up and maintaining AI systems are a barrier to their implementation, requiring the provision of financial resources for the upkeep and advancement of state-of-the-art AI systems and programs (Jarab et. al., 2023; Sharma et.al., 2022; Liao et. al., 2024; Esmaeilzadeh, 2024). The insufficient funding for AI integration is exacerbated by technological infrastructure which hampers the provision of advanced and unique educational encounters (Strohm et. al., 2020; Jöhnk et. al., 2021). Thus, it is crucial to promote cooperation between entities and authorities to back ideal investment in the digital education revolution (Eggers, 2007; Williamson, 2017).

For this, it is important to have a rounded plan that focuses not only on effectively utilizing AI tools in education but also on upholding the essential human values at the heart of the learning journey (Abulibdeh et. al., 2024; Holmes et al., 2022). Protecting data privacy is crucial in this context as AI systems can encroach upon individuals' privacy rights through gathering and examination of personal information without the permission of the individuals involved.

AI platforms have significantly transformed conventional teaching techniques by incorporating AI into the curriculum, increasing student engagement and boosting educational quality (Akgun & Greenhow, 2021; Almusaed et. al., 2023; Xu, 2024). The incorporation of AI into the education industry represents a significant possibility for creating tailored learning experiences since AI systems can analyze massive amounts of student data, such as academic records, subject mastery, and performance evaluations, to identify areas for improvement and deliver tailored interventions aimed at improving educational performance and increasing learning quality and efficiency (Galdames, 2024; Kaswan et. al., 2024; Zohuri & Mossavar-Rahmani, 2024; Zhang and Zhang, 2024). Research shows that involving teachers in the creation of AI systems and applications is critical to ensuring that these technologies satisfy the demands of both teachers and students, maximizing their potential (Pedro et. al., 2019). Zawacki-Richter et al. (2019) urge that instructors be involved in the design and deployment of AI systems to guarantee that they meet genuine educational demands. Chen and Zhang (2020) emphasized that AI's capacity to increase accessibility and flexibility in learning might lead to better learning outcomes and more student involvement, for example, techniques like speech-to-text may benefit students with disabilities by making the content more accessible. These tools are also very adaptable, enabling them to execute numerous jobs simultaneously (Alam, 2021). Incorporating such technologies may help to establish an inclusive learning environment that meets the requirements of varied student groups, however, despite AI's distinct benefits, its use in education faces significant hurdles.

Another barrier is the pushback from some educators who are concerned that AI may jeopardize job security (Alwakdani, 2024). Many instructors are apprehensive that the increased dependence on AI systems would result in job losses, thus they are unwilling to accept or learn how to utilize these technologies to improve education. Furthermore, concerns have been voiced concerning the possible decline in human connection throughout the schooling process. Teachers say that direct connection between students and their teachers is critical for the development of students' social, emotional, and psychological abilities which may be compromised by AI usage (Ahmed et al., 2023). Thus, it is critical to establish a balance between using AI and retaining human connection in education.

Kritikos (2021) recently emphasized the significance of providing instructors with the appropriate training to guarantee efficient use of AI technologies. This training is critical for improving instructors' ability to successfully incorporate this technology into the classroom while adhering to ethical norms for privacy and data security. Budgetary constraints and the high cost of training AI models are the main barriers preventing widespread implementation of this technology in educational institutions according to an AWS study published in 2023. Another issue in incorporating AI into education is the technology gap which may limit certain students' access to these resources. Shen and Zhang (2020) underline the need to overcome technology differences among

students to enable equitable access to AI-enhanced educational activities.

It is important to explore how AI impacts education and its ability to enhance the effectiveness and quality of the experience and at the same time, resolve issues with data privacy, training expenses, and concerns about human contact. Adequate teacher preparation and consideration of technological inequities are critical to guaranteeing the appropriate application of AI. AI must be incorporated into education in an innovative way that benefits every student and fosters an inclusive learning environment to prevent new technologies from upending the classroom. Therefore, this study investigated the role that AI plays in the field of education by looking at how it affects instructors' beliefs and methods in the classroom to provide an understanding of how AI can improve learning environments and customize teaching methods to better meet students' requirements. The study explores the advantages and disadvantages of integrating AI technologies within environments along with the potential enhancements that such tools may offer in facilitating learning outcomes.

Research Questions

1) What is the significance of utilizing AI in teaching from the perspectives of teachers in the US?
2) What are the most significant obstacles that teachers encounter when implementing AI systems?
3) Is there a statistically significant difference in the means of the research sample in terms of the significance of utilizing AI systems from the teachers' perspectives and the obstacles based on variables such as gender, type of school, and years of experience?

Methodology

The study involved 390 instructors from a wide range of educational settings, that is, public and private schools in various US states, and was approved by the University of Hafr Al Batin's Institutional Review Board (IRB). The instructors were invited to participate via email and the data were collected by a questionnaire distributed online via a survey platform.

The questionnaire began with explicit instructions that emphasized voluntary participation and confidentiality, and was divided into three sections: 1) this section collected demographic data including information on gender, years of experience, type of school (public/private), and educational qualifications; 2) this section examined teachers' perspectives on the benefit of incorporating AI into their instructional techniques; 3) this section highlighted the major obstacles that teachers face when using AI technology. The questions were scored using a four-point Likert scale: (1) strongly disagree; (2) disagree; (3) agree; and (4) strongly agree (Table 1). The findings were analyzed using descriptive and inferential statistical methods. Demographic information was analyzed to better understand the sample and was processed using descriptive statistics such as means and standard deviations, with t-tests and one-way ANOVA in SPSS.

Table 1: Four-point Likert Scale

Assessment	I strongly disagree	I disagree	I agree	I strongly agree
Degree	1	2	3	4
Weighted Mean	1-1.75	1.76-2.50	2.51-3.25	3.26-4.00
Degree of response	Very low	low	medium	Very high
Relative Average	25%-43%	44%-62%	63%-81%	82%-100%

Results

Demographic Data

Table 2 presents a summary of the study participants' demographic data showing that they were predominantly female (74.1%) with most participants (56.9%) possessing a master's degree or higher. A significant portion of the sample, 82.8%, originated from public institutions with 49.2% of participants having more than 10 years of experience.

Table 2: Summary of the participants' demographical characteristics (N=390)

Variables	Category	Frequency	Percentage
Gender	Male	101	%25.9

	Female	289	%74.1
	Total	390	%100.0
Educational qualification	Bachelor's degree or lower	168	%43.1
	Master's degree or higher	222	%56.9
	Total	390	%100.0
Type of school	Public	323	%82.8
	Private	67	%17.2
	Total	390	%100.0
Years of experience	1 to 4 years	86	%22.1
	More than 4 years to 10 years	112	%28.7
	More than 10 years	192	%49.2
	Total	390	%100.0

The study's validity was affirmed by two experts in educational leadership. The internal consistency of the questionnaire was assessed by calculating the correlation coefficients between each item and the total score of its section, with all items exhibiting significant correlations (Table 3).

Table 3: The correlation coefficients of each item in the questionnaire

No	Coefficient of correlation	No	Coefficient of correlation
Importance of using AI systems and technologies in education		Challenges facing the use of AI systems and applications in education	
1.	0.747**	1.	0.523**
2.	0.698**	2.	0.460**
3.	0.713**	3.	0.483**
4.	0.721**	4.	0.445**
5.	0.680**	5.	0.611**
6.	0.739**	6.	0.675**
7.	0.769**	7.	0.593**
8.	0.633**	8.	0.313**
9.	0.751**	9.	0.444**
10.	0.761**	10.	0.607**
11.	0.693**	11.	0.532**
12.	0.725**	12.	0.653**
13.	0.672**	13.	0.636**
14.	0.681**	14.	0.646**
15.	0.727**		
16.	0.727**		
17.	0.707**		
18.	0.765**		

**Correlation is significant at the 0.01 level (1-tailed).

Table 4 displays the correlation coefficients between each section and the overall average, indicating that the correlation coefficients are significant at the 0.01 level.

Table 4: Structure validity of the questionnaire

No.	Section	Pearson correlation coefficient
1	Importance of Using AI Systems and Technologies in Education	7800.
2	Challenges Facing the Use of AI Systems and Applications in Education	4690.

Correlation is significant at the 0.01 level (2-tailed).

Additionally, reliability steps were conducted with the same pilot sample using Cronbach's alpha (Table 5) with the high coefficients indicating that the questionnaire is highly reliable. The reliability coefficient for all

items reached (0.944) for using AI systems and technologies in education, and (0.813) for challenges facing the use of AI systems and applications in education.

Table 5: Cronbach's Alpha

No	Principle	No. of items	Cronbach's Alpha
1	Importance of using AI systems and technologies in education: teacher's perspective	18	0.944
2	Challenges facing the use of AI systems and applications in education	14	0.813
All items		32	0.860

The first research question, "What is the significance of utilizing AI in teaching from the perspectives of teachers in the US?" was addressed by analyzing the data regarding teachers' perceptions of the importance of utilizing AI systems and applications in teaching (Table 6).

Table 6: Importance of using AI systems and technologies in education: Teacher's perspectives

No	Items		Strongly disagree	disagree	agree	Strongly agree	Mean	Std. Deviation	Degree of response	Rank
17	AI systems offer flexibility in time and location when delivering instructional resources.	Freq	28	70	240	52	2.81	0.752	medium	1
		Perc	7.2%	17.9%	61.5%	13.3%				
3	I utilize intelligent technologies as instructional instruments to maximize students' academic achievement.	Freq	27	81	224	58	2.80	.7720	medium	2
		Perc	6.9%	20.8%	57.4%	14.9%				
5	I provide support to students who lack experience in using smart systems and applications.	Freq	41	92	199	58	2.70	.8480	medium	3
		Perc	10.5%	23.6%	51.0%	14.94%				
9	I use AI to develop my skills and academic performance.	Freq	45	99	175	71	2.70	.8990	medium	4
		Perc	11.5%	25.4%	44.9%	18.2%				
7	AI systems and applications assist students in making educational decisions that align with their academic needs.	Freq	41	99	220	30	2.61	.7760	medium	5
		Perc	10.5%	25.4%	56.4%	7.7%				
18	AI systems and applications provide a learning style that fits students' inclinations and educational needs.	Freq	33	118	211	28	2.60	.7440	medium	6
		Perc	8.5%	30.3%	54.1%	7.2%				
10	AI technologies contribute to motivating students to learn.	Freq	44	112	195	39	2.59	.8180	medium	7
		Perc	11.3%	28.7%	50.0%	10.0%				
2	AI systems and applications help reduce	Freq	36	129	185	40	2.59	.7960	medium	8
		Perc	9.2%	33.1%	47.4%	10.3%				

	reliance on traditional textbooks.									
16	AI systems and applications provide appropriate feedback for teachers.	Freq	45	132	179	34	2.52	.8100	medium	9
		Perc	11.5%	33.8%	45.9%	8.7%				
6	I assign students educational tasks that require using smart systems and applications to enhance their technical skills.	Freq	57	136	152	45	2.47	.8800	low	10
		Perc	14.6%	34.9%	39.0%	11.50%				
1	I continuously update AI-related systems and applications.	Freq	71	146	145	28	2.33	.8550	low	11
		Perc	18.2%	37.4%	37.2%	7.2%				
15	The use of AI systems and applications encourages challenges and competition among students.	Freq	63	162	146	19	2.31	.7980	low	12
		Perc	16.2%	41.5%	37.4%	4.9%				
8	The school administration provides the necessary resources to utilize AI systems and technologies.	Freq	65	168	131	26	2.30	.8240	low	13
		Perc	16.7%	43.1%	33.6%	6.7%				
14	The use of AI technologies considers the individual differences between students.	Freq	67	174	133	16	2.25	.7840	low	14
		Perc	17.2%	44.6%	34.1%	4.1%				
11	The curriculum incorporates the utilization of AI systems inside the educational framework.	Freq	78	175	110	27	2.22	.8440	low	15
		Perc	20.0%	44.9%	28.2%	6.9%				
4	I use audio and visual AI technologies to translate the curriculum's instructional content into audio and video files.	Freq	87	169	115	19	2.17	.8280	low	16
		Prec	22.3%	43.3%	29.5%	4.9%				
12	I synthesize teachings in the form of figures and mathematical equations with accuracy and in a way that is easy to grasp utilizing AI systems and apps.	Freq	85	178	106	21	2.16	.8250	low	17
		Prec	21.8%	45.6%	27.2%	5.4%				
13	I transform printed photos and written content into editable text documents utilizing AI algorithms and apps.	Freq	93	178	95	24	2.13	.8450	low	18
		Prec	23.8%	45.6%	24.4%	6.2%				
							2.45	0.585	medium	

The teachers' responses indicated that they agreed that the flexibility of AI systems improves material dissemination and encourages better student performance, highlighting the need for continuous improvement in the learning process. AI also enhances teachers' abilities, enabling them to make more informed academic decisions and provide individualized training to students. It also removes the need for traditional textbooks and

gives educators appropriate feedback.

However, there was a lack of agreement regarding the use of AI in their teaching activities, indicating that some instructors perceived that AI systems and apps have limited value in giving instructional tasks requiring smart technology. This emphasizes the need for training to increase students' technical skills, as well as sufficient financial resources. Improving AI systems requires specialized skills, private businesses, and cooperation with technology providers, all of which result in significant costs and contracts. These concerns impose a load on teachers and administrators resulting in a low priority ranking for such applications.

Also, the teachers believed that AI technologies provide minimal benefit in terms of enhancing student competitiveness, possibly because students struggle to show their distinctiveness utilizing AI technology as in traditional classrooms. Furthermore, some students lack the necessary technological skills, so these technologies are unfamiliar to them, and many institutions have not previously used such systems, influencing how individual differences are handled. Teachers also reported difficulties in applying AI technology to convert instructional content into audio or visual formats, as well as effectively summarizing courses using charts and mathematical symbols. Furthermore, many teachers found it impossible to convert printed photographs or handwritten text into editable files using AI software, highlighting the poor value assigned to these systems.

Regarding the second research question, “What are the most significant obstacles that teachers encounter when implementing AI systems?”, the teachers were in moderate agreement about the perceived challenges (Table 7).

Table 7: Challenges facing the use of AI systems and applications in education

No	Items									
			Strongly disagree	disagree	agree	Strongly agree	Mean	Std. Deviation	Degree of response	Rank
14	Lack of specialists and experts in AI technologies to consult when needed.	freq	10	33	214	133	3.21	.6980	medium	1
		perc	2.6%	8.2%	54.9%	34.1%				
12	Insufficient resources available to fund the implementation of AI systems and applications in education.	freq	13	64	203	110	3.05	.7600	medium	2
		perc	3.3%	16.4%	52.1%	28.2%				
6	There is a dearth of awareness courses and specialized training programs that might improve the usage of AI in classrooms.	freq	13	67	203	107	3.04	.7610	medium	3
		perc	3.3%	17.2%	52.1%	27.4%				
3	Some students struggle with handling AI systems and applications.	freq	13	41	260	76	3.02	.6590	medium	4
		perc	3.3%	10.5%	66.7%	19.5%				
11	The school administration does not prioritize the application of AI technologies in the educational process.	freq	13	83	192	102	2.98	.7800	medium	5
		perc	3.3%	21.3%	49.2%	26.2%				
9		freq	17	69	221	83	2.9	.7500	medium	6

	Lack of awareness among teachers in the school about the importance of using AI systems and applications.	perc	4.4%	17.7%	56.7%	21.3%	5			
10	The workload placed on teachers hinders their ability to use various AI technologies.	freq	20	76	206	88	2.93	.7890	medium	7
		perc	5.1%	19.5%	52.8%	22.6%				
13	The high financial costs associated with using and updating AI systems and applications in education.	freq	11	96	194	89	2.93	.7640	medium	8
		perc	2.8%	24.6%	49.7%	22.8%				
4	The number of students in the classroom does not allow effective control of AI systems and applications in education.	freq	20	145	163	62	2.68	.7990	medium	9
		perc	5.1%	37.2%	41.8%	15.9%				
5	Difficulty in accessing the latest versions of AI systems and applications.	freq	23	140	184	43	2.63	.7560	medium	10
		perc	5.9%	35.9%	47.2%	11. 0%				
7	Difficulty in obtaining antivirus programs to protect AI systems and applications.	freq	36	139	159	56	2.60	.8440	medium	11
		perc	9.2%	35.6%	40.8%	14.4%				
1	Difficulty in using various types of AI systems and technologies.	freq	21	159	184	26	2.55	.7000	medium	12
		perc	5.4%	40.8%	47.2%	6.7%				
8	The anticipation of increased unemployment rates among teachers if AI is used in education and relied upon as a substitute for human involvement.	freq	65	145	125	55	2.44	.9290	low	13
		perc	16.7%	37.2%	32.1%	14.1%				
2	Using AI systems and applications requires more effort compared to traditional teaching methods.	freq	41	185	146	18	2.36	.7310	low	14
		perc	10.5%	47.4%	37.4%	4.6%				
							2.81	.4140	medium	

The barriers to the use of AI technology were a paucity of AI specialists and experts, insufficient funding for implementing AI systems in education, and insufficient training and awareness sessions. These issues highlight the novelty of AI technology in education, necessitating a significant effort to overcome these limitations. Over time, AI technologies are projected to become more widespread and widely implemented, underlining the current lack of a clear strategy for AI integration in education. According to the survey sample, students have moderate difficulties using AI systems, while school officials are less enthusiastic about using AI in teaching. Furthermore, teachers' lack of understanding of the importance of AI, as well as the workload challenges they face, restrict their ability to properly use AI technology. The expensive cost of developing and maintaining AI systems is also a significant barrier, especially as most schools lack the necessary infrastructure to support these technologies, such as specialized equipment and installations. Other challenges include large class sizes, as well as restricted access to the latest AI versions and antivirus apps needed to protect these systems. Teachers also struggle with the intricacies of various AI technologies and their limited application in education raises adoption obstacles.

Although the teachers believed that using AI systems requires more effort than traditional teaching approaches, it does not place a significant load on them. Similarly, there was little concern about increased unemployment as a consequence of AI use and its ability to replace human participation. Most teachers viewed this as an opportunity to incorporate new specialized human resources into the educational system, rather than a huge hurdle.

The data were statistically analyzed to answer the first research question, "Is there a statistically significant difference in the means of the research sample in terms of the significance of utilizing AI systems from the teachers' perspectives and the obstacles based on variables such as gender, type of school, and years of experience?" The gender analysis in Table 8 revealed that gender disparities do not influence teachers' perceptions about the importance of using AI systems in education and gender does not alter teachers' perceptions of the challenges they face while adopting AI technology in education. Overall, teachers, regardless of gender, are positive about the benefits of incorporating AI systems and technology into teaching.

Table 8: Statistical analysis of the role of AI in education from teachers' perspectives based on gender

Dimensions	Gender	No	Mean	SD	T	Df	Sig
Importance of using AI systems and technologies in education: teacher's perspective	Male	101	2.5418	0.639	1.646	388	0.101
	Female	289	2.4306	0.564			
Challenges facing the use of AI systems and applications in education	Male	101	2.7652	0.434	1.322-	388	0.187
	Female	289	2.8285	0.406			
Total	Male	101	2.6535	0.363	0.636	388	0.525
	Female	289	2.6295	.3110			

Regarding the type of school, Table 9 reveals that the type of school did not impact teachers' opinions of the importance of artificial intelligence in education. However, it did affect the teachers' opinions regarding the challenges faced in implementing AI which might be related to the unique obstacles that public schools face, such as budget cutbacks and infrastructure limitations, which impact teachers' perceptions of the challenges associated with employing AI technology.

Table 9: Statistical analysis of the role of AI in education from teachers' perspectives based on the type of school

Dimensions	Type of School	No	Mean	SD	T	Df	Sig
Importance of using AI systems and technologies in education: teacher's perspective	Public	323	2.4603	0.56401	0.064	388	0.949
	Private	67	2.4552	0.68536			

Challenges facing the use of AI systems and applications in education	Public	323	2.8355	0.40622	2.462	388	0.014
	Private	67	2.6994	0.43847			
Total	Public	323	2.6479	0.31239	1.618	388	0.107
	Private	67	2.5773	.380370			

Table 10 indicates that instructors' attitudes toward the significance of AI systems in teaching remain positive regardless of their educational degrees and that their responses to the challenges of using AI technology are unaffected by their educational experience. Furthermore, the instructors' perceptions of the tool were unaffected by their educational background.

Table 10: Statistical analysis of the role of AI in education from teachers' perspectives based on their educational qualification

Dimensions	Educational Qualification	No	Mean	SD	T	Df	Sig
Importance of using AI systems and technologies in education: teacher's perspective	Bachelor's degree or lower	168	2.4676	0.582	0.240	388	0.810
	Master's degree or higher	222	2.4532	0.589			
Challenges facing the use of AI systems and applications in education	Bachelor's degree or lower	168	2.8214	0.424	0.387	388	0.699
	Master's degree or higher	222	2.8050	0.407			
Total	Bachelor's degree or lower	168	2.6445	0.328	0.462	388	0..644
	Master's degree or higher	222	2.6291	0.3240			

Table 11 shows that instructors' views on the importance of AI technologies in education and the challenges associated with AI technology are independent of their years of experience. Thus, years of expertise have minimal bearing on teachers' overall judgments, suggesting that teachers, regardless of experience level, have the necessary knowledge and skills to understand the benefits of AI technologies as well as the challenges they face while using them, resulting in consistent responses across similar working environments.

Table 11: One-way ANOVA of the role of AI in education from teachers' perspectives based on age

Dimensions	Source	SS	df	MS	F	p	Statistical Significance
Importance of using AI systems and technologies in education: teacher's perspective	Between Groups	0.867	2	0.433	1.265	2830.	Not statistically significant
	Within Groups	132.568	387	0.343			
	Total	133.434	389				
Challenges facing the use of AI systems and applications in education	Between Groups	0.020	2	0.010	0.058	9440.	Not statistically significant
	Within Groups	66.831	387	0.173			
	Total	66.851	389				
Total	Between Groups	0.250	2	0.125	1.179	3090.	Not statistically significant
	Within Groups	40.999	387	0.106			
	Total	41.248	389				

Recommendations

Based on the analysis of teachers' perspectives on the incorporation of AI in education in light, it is recommended that: teachers' AI technology proficiency should be evaluated by assessing the accessibility and quality of required training programs and support systems. These resources must improve teachers' understanding of and proficiency with AI technology.

Moreover, ongoing assessments must be conducted to ascertain the impact of these training initiatives on educators' perspectives on the integration of AI in learning environments. Second, basic concerns concerning AI in education need to be addressed including data privacy protection, ensuring neutrality and fairness in learning settings, and potential effects on teaching careers in the future. Proactive steps must be taken to address these issues to ensure that AI is appropriately used to enhance educational outcomes without endangering ethical standards or the responsibilities of educators.

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