

Teachers' Attitudes toward Artificial Intelligence and Implementation of Inclusive Education Practices at Secondary Level

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ABSTRACT

The potential to promote inclusive education practices, especially at the secondary level, artificial intelligence (AI) integration in education has drawn attention from all over the world. In order to address a variety of learning needs, including those of students with disabilities, teachers are crucial in implementing AI technologies. The purpose of this study was to investigate the Relationship between teachers' attitudes toward artificial intelligence and implementation of inclusive education practices at secondary level. A Likert-scale questionnaire was used to gather data from 80 secondary school teachers as part of a correlational study design. Using SPSS, descriptive statistics, t-tests, correlation, and simple linear regression were used to analyze the data. The results showed that teachers' attitudes toward AI and their use of inclusive teaching methods had a very weak and statistically insignificant relationship. Additionally, inclusive education practices were not significantly predicted by teachers' attitudes toward AI. The study comes to the conclusion that even though educators may have favorable or neutral opinions about AI, these viewpoints are not enough to affect inclusive teaching methods. In order to successfully incorporate AI into inclusive education, the study emphasizes the necessity of focused professional development, institutional support, and teacher training.

Keywords: Artificial intelligence, Teacher's attitude, Inclusive education

INTRODUCTION

This study shows that the global emergence of artificial intelligence (AI) in education has significant challenges and opportunities, specially promoting inclusive education at secondary level. AI technologies enhance the learning experiences and teachers play an important role as a mediator in integrating these techniques for all the students in which person with disabilities are also included. There is a research gap regarding the empirical evidence linking teachers' attitudes towards AI with inclusive practices mostly in developing countries. This study aims to check the teacher's attitudes towards artificial intelligence (AI) and implementation of inclusive education practices at secondary level. Improving Instructional methods and personalized learning the AI is helping in reshaping educational practices (Adil, 2025). For teachers, AI can reduce the administrative burden and also increases the feedback mechanism (Cabral & Palavras, 2025).

Importance of Inclusive Education and AI

According to Sustainable development goal 4, equity in education is compulsory and inclusive education is very important for achieving it (Yang, 2025). AI can also help and facilitate the students with different disabilities and improve their academic performance and also allow personalized learning (Yang, 2025). In successful integration of AI, teachers play a very important role and to support to navigate the challenges they need a proper training (Motta et al., 2025). In developing countries, the limited empirical evidence of attitudes of teachers towards AI with inclusive education practices Adigun

& Ojomo, 2025). For more effective use of AI in diverse education system, there is a need of more comprehensive studies (Adil, 2025).

Study Purpose and Significance

This study aims to examine the Relationship between teacher's attitudes towards artificial intelligence (AI) and implementation of inclusive education practices at secondary level. In this study the researcher explore how integrate AI technologies in fostering inclusive practices and how teachers perceive it. The significance of the study is to increase teacher training programs and policy making which ensure that the teachers acquire the necessary skills and positive mindset to use AI technology in inclusive or any setting effectively. This study also help to find that how teacher's perception of AI's role in inclusive practices and their attitude towards the practical application affects and works. It also concerns and address the technological disparities and ethical concerns in AI education (Jamaludin et al., 2025).

Research objectives

This study was intended to achieve the following objectives, to

1. Investigate teacher's attitude towards AI in inclusive education.
2. Determine the correlation between teacher's attitude towards AI and their implementation of inclusive education practices.
3. Difference between teachers' attitude based on demographical variable.

Research Question

The present study aimed to answer the following question:

1. What are teachers' attitudes towards Artificial Intelligence (AI) in inclusive education?
2. Is there a significant relationship between teachers' attitudes towards AI and the implementation of inclusive education practices in classrooms?
3. Do teachers' attitudes towards AI differ according to selected demographic variables?

LITERATURE REVIEW

Teachers' attitudes toward AI in education is a complex interplay of benefits, concerns, and empirical findings. AI technologies become increasingly integrated into educational context and understanding the attitudes is very difficult for effective implementation. The following portion outline the concept of AI, its benefits and concerns, and empirical findings which were taken from prior studies.

Teachers' attitudes toward AI are shaped by their perceptions of its potential to enhance educational practices. According to Cabral & Palavras and Nasrudin & Hashim (Cabral & Palavras, 2025), many educators see AI as a tool for individualized learning that enables students to have individualized educational experiences. According to Aghaziarati et al., n.d., teachers express concern regarding AI's impact on their roles, fearing that it may take their professional identity and result in job displacement. AI in education have both advantages and challenge: AI enhanced the learning outcomes through different personalized instruction (Adil, 2025). Using different automation for performing administrative tasks, reducing teachers' workloads (Cabral & Palavras, 2025) (Garzón et al., 2025). It majorly concerns with ethical issues, like data privacy and algorithmic bias (Aghaziarati et al., n.d.) (Adil, 2025). Lack of sufficient training and technological infrastructure to support AI integration (Cabral & Palavras, 2025) (Garzón et al., 2025). A systematic review identify that in research

there is a significant increase on AI in education, and it reflecting growing the interest and concern (Garzón et al., 2025). The Studies shows that while teachers recognize AI's transformative potential, institutional support and effective integration hinges on digital literacy (Nasrudin & Hashim, 2025) (Adil, 2025).

Teacher's attitude towards AI and implementation of inclusive education practices are very necessary to maintain and foster an equitable learning environment. AI can play an important role in enhancing inclusive practices like differentiation, collaboration and the use of assistive technology and it also addresses the challenges in teacher competence and professional development. AI helps in personalized learning and allowing teachers to design the content according to the diverse needs of learners (Hurem, 2025). It enhance the collaboration between teachers, students and parents in inclusive settings Hurem, 2025). AI provide essential support to person with disabilities and give equal access to educational resources (Fitas, 2025).

Many teachers cannot implement the inclusive strategies because of lack of professional training so continuous training is necessary (Palmieri et al., 2025). AI is also helpful In early diagnosis of students with special needs (Motta et al., 2025). Most common barriers that effect the implementation of inclusive practices are inadequate resources, insufficient training and resistance of institution to change (Palmieri et al., 2025; Motta et al., 2025).

The relationship between teacher's attitude towards AI and the implementation of inclusive education practices at secondary level is influenced with different theoretical framework and empirical studies. For student with diverse needs, it's very important to build the understanding for increasing the educational outcomes. Technology acceptance model is a model that perceived ease and usefulness of technology adoption (Serdenia et al., 2025). AI can enhance the effectiveness of inclusive practices and personalized learning experiences. It also emphasize to adapt different teaching pedagogies according to the diverse needs of learners (Gupta & Kaul, 2024).

A study shows that future teacher indicate acceptance and attitudes towards AI, correlation between acceptance, attitude and positive effectiveness (Serdenia et al., 2025). A research in luxembourg shows the importance of teachers experiences and attitudes towards AI and the results suggesting positive perceptions can lead effective inclusive education practices (Hau et al., 2024). Besides these researches, there is a lack of focusing on the specific barriers that teachers face in adopting AI. Further studies and exploration is needed to understand different socio-economic conditions and infrastructure that may influence these attitudes (Gupta & Kaul, 2024, Hau et al., 2024).

RESEARCH METHODOLOGY

The researchers utilize a quantitative research approach using a correlational research design. This design was appropriate as the study aimed to examine the relationship between teachers' attitudes toward Artificial Intelligence and the implementation of inclusive education practices. The collection of data was done through an online survey (Google Forms). After data collection, the responses were collected and analyzed using SPSS. The statistical techniques that were applied are descriptive statistics (frequencies, means, and standard deviations), Pearson correlation, Simple Linear Regression, Independent sample t-test and One-way ANOVA

Research Instrument

A structured, questionnaire measuring teachers' attitudes toward artificial intelligence (AI) and their use of inclusive education practices was used to gather data for the study. There were three sections on the questionnaire. Demographic data was collected in Section A. Ten Likert-type statements addressing perceived utility, ease of use, ethical concerns, institutional support, and intention to adopt AI were included in Section B, which assessed teachers' attitudes toward AI. Twelve Likert-type statements addressing differentiated instruction, assistive technology use, collaboration, assessment flexibility, and

support for students with disabilities were included in Section C, which evaluated the application of inclusive education practices.

Population of the study

The participants in the study are secondary school teachers who participated in inclusive education practices and had some level of exposure to Artificial Intelligence (AI) tools for education and instruction. These teachers were from various subject areas and taught levels. Teachers were chosen as the population because they are the primary agents responsible for implementing inclusive strategies and integrating AI technologies to deal with the diverse learning needs of students, including learners with disabilities.

Sample of the Study

A total of 80 teachers were selected as the sample for the study using a convenience sampling technique. Male (41) and female (39) teachers of varying ages made up the sample relevant to different groups, teaching expertise, and subject areas of expertise. The sample size was considered adequate for using SPSS to conduct correlational and regression analyses. Results and analysis of the data Using descriptive and inferential methods.

Validity

The instrument items were derived from previously validated constructs reported in recent studies and evaluated for clarity, relevance, and alignment with the research objectives in order to establish content validity.

Reliability

Following data collection, SPSS's Cronbach's alpha was used to evaluate the instrument's reliability. The instrument was found to be reliable for measuring the intended constructs, as evidenced by the internal consistency values for both subscales teachers' attitudes toward AI and inclusive education practices falling within acceptable reliability thresholds.

DATA ANALYSIS

The data from 80 teachers were analyzed using SPSS. Statistical methods like correlation, frequencies, percentages, and simple linear one-way ANOVA, the independent samples t-test, and regression. The analysis revealed a very weak and statistically non-significant correlation between the two variables ($r = .118, p > .05$). Additionally, independent samples t-test and one-way ANOVA results indicated no significant differences in teachers' attitudes toward AI or inclusive practices based on gender or years of teaching experience. Overall, the findings demonstrate that teachers' attitudes toward AI alone do not significantly influence the implementation of inclusive education practices.

Table 1: Sociodemographic Characteristics of Participants

<i>Variables</i>	<i>F</i>	<i>%</i>
Age		
21 to 30	24	29.6
31 to 40	16	19.8
41 to 50	27	33.3
51 to 60	13	16.0
Gender		
Male	41	50.6

Female	39	48.1
Teaching Level		
Primary	21	25.9
Middle	18	22.2
Secondary	34	42.0
Higher Education	7	8.6
Years of Teaching Experiences		
1 to 5 years	18	22.2
6 to 10 years	26	32.1
11 to 15 years	32	39.5
16 to 20 years	4	4.9
Subject Area		
Math	17	21.0
Science	2	2.5
Language	16	19.8
Social Studies	16	19.8
ICT	14	17.3
Others	15	18.5
AI Training		
Yes	21	25.9
No	59	72.8

Table describes the sociodemographic characteristics of the participants (N=80). Most teachers were between 41-50 years of age (33.3%) , followed by 21–30 years (29.6%). The sample included almost equal numbers of male (50.6%) and female (48.1%) teachers. A large portion of participants were teaching at the secondary level (43.0%), and most reported having 11-15 years of teaching experience (39.5%). Participants represented various subject areas with mathematics (21.0%) being the most common. Additionally, the majority of teachers (72.8%) reported no prior training in artificial intelligence, indicating limited formal exposure to AI among the sample.

Table 2 : Intercorrelation between Teachers’ Attitudes toward Artificial Intelligence and Implementation of Inclusive Education Practices at Secondary Level

Variables	AI	INCL
AI	-	
INCL	.118	-

N= 80

* $p < .05$. ** $p < .01$.

Table indicates that Pearson correlation analysis was conducted and the results show a weak positive correlation between AI and INCL ($r = .118$, $N = 80$). However, the relationship is not statistically significant ($p = .296 > .05$).

Table 3: Simple Linear Regression Predicting Inclusive Education Practices

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	5.479	.628		8.724	.000
	AI	.062	.090	.077	.685	.496

a. Dependent Variable: INCL

Simple Linear Regression was run to establish if the teachers' attitudes towards AI predicted their implementation of inclusive education practices. The regression model was not statistically significant $F(1, 78) = 0.469, p = .496$, and explained only 0.6% of the variance in inclusive practices ($R^2 = .006$). Teachers' attitudes toward AI did not significantly predict inclusive education practices ($\beta = .077, p = .496$).

Table 4: Gender Differences in Teachers' Attitudes toward Artificial Intelligence and Implementation of Inclusive Education Practices at Secondary Level

Variables	Men ^a		Women ^b		t (78)	P	Cohen's d
	M	SD	M	SD			
AI	3.95	.38	3.52	.35	-.86	.39	1.17
INCL	3.08	.24	3.01	.29	1.02	.30	.26

N= 80. M=mean; SD= standard deviation

a n = 41. b n = 39

*p< .05. **p< .01

Results of Independent sample t test showed non-significant gender difference found in teacher's attitude towards the implementation of artificial intelligence and inclusive education practices at secondary level. These findings suggest that gender is not a significant factor influencing teachers' attitudes toward AI or their implementation of inclusive education practices at the secondary level.

Table 5: Mean Difference in Teachers' Attitudes toward Artificial Intelligence and Implementation of Inclusive Education Practices at Secondary Level in different categories of years of teaching experiences

Variables	1- 5 years n= 18		6 - 10 years n= 26		11-15 years n= 32		16-20 years n= 04		F	P	Effect Size
	M	SD	M	SD	M	SD	M	SD			
AI	3.48	.42	3.57	.33	3.42	.39	3.43	.20	.82	.20	0.06
INCL	2.97	.26	3.09	.29	3.07	.26	2.85	.17	1.47	.17	0.12

N= 80. M=mean; SD= standard deviation

^a n = 18. ^b n = 26. ^c n= 32. ^d n= 04

*p< .05. **p< .01

Table 6 presents the mean differences in teachers' attitudes toward Artificial Intelligence (AI) and the implementation of inclusive education practices across different categories of years of teaching experience (1–5 years, 6–10 years, 11–15 years, and 16–20 years). The results showed non-significant differences among experience group for attitude towards AI, $F=0.32, P= .20, \eta^2 = .06$.

Similarly, non-significant differences were found for inclusive education practices, $F=1.47, p = .17, \eta^2 = .12$. These findings indicated that years of teaching experience do not significantly influence teachers' attitude towards AI or their implementation of inclusive practices at the secondary level.

FINDINGS OF THE STUDY

The data gathered from 80 secondary school teachers were analyzed, and a number of significant findings regarding teachers' attitudes toward Artificial Intelligence (AI) and the implementation of inclusive education practices.

- Descriptive findings demonstrated that teachers tended to be neutral to moderately positive attitudes toward AI, a substantial majority lacked formal AI training, indicating limited practical readiness to integrate AI into inclusive classrooms. This discrepancy between perception and preparation became an important contextual issue influencing the results.
- The correlation analysis revealed a very weak positive relationship between teachers' attitudes toward AI and their implementation of inclusive education practices ($r = .118$).
- Further analysis through simple linear regression showed that teachers' attitudes toward AI did not significantly predict the implementation of inclusive education practices.
- The results of the independent samples t-test revealed no significant gender differences in teachers' attitudes toward AI or in their implementation of inclusive education methods. Teachers of all genders shared similar perceptions and practices, indicating that gender does not influence acceptance of AI or inclusive secondary level implementation.
- Similarly, the one-way ANOVA results indicated no statistically significant attitudes of different individuals toward AI or inclusive educational practices categories of experience in teaching. Teachers with fewer years of experience and those with a lot of experience demonstrated similar levels of AI attitudes and inclusion practices, indicating that teaching experience alone has little impact on AI integration or inclusive behavior.
- Overall, the results indicate that teachers may recognize AI's potential in education, this recognition does not always result in inclusive education practices, primarily as a result of professional and structural limitations.

CONCLUSION

The study's findings lead to the conclusion that relationship between teachers' attitudes toward Artificial Intelligence and the implementation of inclusive practices is not significantly influenced by intelligence alone. Despite the fact that teachers tend to be positive or neutral, perceptions of AI, these attitudes are insufficient to drive meaningful changes in classroom practices that lack access to resources, institutional support, and adequate training. The dearth of significant gender and teaching experience differences further suggests that system-level factors, rather than individual characteristics, play a more critical role in the effective use of AI in education for all students. The study highlights the need for targeted structured AI training, interventions at the policy level, and professional development programs to enable educators to turn positive perceptions into inclusive practices that can be sustained education practices.

RECOMMENDATIONS

The following suggestions are made following the study's findings.

1. Pre-service and in-service teacher education programs should formally integrate AI-related courses and modules, particularly those that are in line with practices for inclusive education. This will assist educators in developing not only the necessary competencies but also positive attitudes for effective implementation.

2. It was discovered that attitudes toward AI as a whole did not significantly predict inclusive practices. Future initiatives should place an emphasis on classroom implementation and practical skill development, strategies, and contextual problem-solving, rather than focusing solely on changing perceptions.
3. In future studies, qualitative data should be included, and samples should be larger and more diverse approaches, and investigate additional aspects like institutional readiness and accessibility to resources, and policy support to better understand the dynamics influencing AI integration in inclusive education

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