



Artificial Intelligence and New Responsibilities of Teachers

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Abstract: *The emergence of Artificial Intelligence (AI) as a transformative force in education has significantly altered traditional teaching–learning processes and redefined the professional role of teachers. AI-driven technologies such as adaptive learning platforms, intelligent tutoring systems, automated assessment tools, and learning analytics are increasingly being integrated into classrooms to enhance personalization, efficiency, and instructional effectiveness. While these innovations offer substantial benefits, they also introduce new pedagogical, ethical, and professional challenges for teachers. In the AI-enabled educational environment, teachers are no longer limited to the role of content transmitters; instead, they are expected to function as facilitators of learning, critical thinkers, ethical guides, and mentors who support students’ holistic development. The responsibility of teachers now includes selecting appropriate AI tools, interpreting data generated by intelligent systems, and ensuring that technology use aligns with educational goals and learners’ needs. Moreover, teachers must address concerns related to data privacy, algorithmic bias, equity, and the responsible use of AI among students. Human qualities such as empathy, moral judgment, creativity, and social interaction remain central to effective education and cannot be replaced by intelligent machines. Therefore, teachers play a crucial role in maintaining a balance between technological advancement and human values. This paper highlights the evolving responsibilities of teachers in the context of Artificial Intelligence and emphasizes the need for continuous professional development, ethical awareness, and pedagogical adaptability to ensure meaningful, inclusive, and value-oriented education in the digital age.*

Keywords: *Artificial Intelligence, Teachers’ Responsibilities, Educational Technology, Digital Pedagogy, AI in Education.*

Introduction: Education has always evolved in response to social, scientific, and technological changes. In recent years, Artificial Intelligence has emerged as one of the most influential forces shaping educational systems worldwide. AI technologies are increasingly being used to personalize learning, automate routine tasks, analyze student performance, and support instructional decision-making. While these developments offer new opportunities for enhancing teaching effectiveness and learner outcomes, they also raise critical questions about the changing role of teachers.

Traditionally, teachers were regarded as the primary source of knowledge and authority in the classroom. However, with AI systems capable of delivering content, evaluating responses, and providing instant feedback, the teacher’s role is undergoing a fundamental shift. Rather than replacing teachers, AI demands that they assume new and expanded responsibilities that cannot be replicated by machines. These include

nurturing critical thinking, fostering creativity, supporting emotional well-being, and guiding learners in the ethical use of technology.

In this context, understanding the new responsibilities of teachers becomes essential. Teachers must not only acquire technological skills but also develop the capacity to integrate AI thoughtfully and responsibly into pedagogical practices. The present discussion explores how Artificial Intelligence redefines teachers' professional roles and underscores the importance of human judgment and values in technology-mediated education.

Conceptual Clarification

Artificial Intelligence refers to computer-based systems designed to perform tasks that typically require human intelligence, such as learning, reasoning, problem-solving, and decision-making. In education, AI includes tools like adaptive learning software, intelligent tutoring systems, learning analytics, automated grading, and virtual assistants. These technologies aim to enhance efficiency, personalization, and accessibility in the teaching–learning process.

Teachers' responsibilities encompass the professional, pedagogical, ethical, and social duties associated with facilitating student learning. In the context of AI-enabled education, these responsibilities extend beyond instructional delivery to include guiding learners in using technology critically, ensuring fairness and inclusivity, protecting data privacy, and maintaining meaningful human interaction.

Human-centered pedagogy emphasizes the emotional, moral, and social dimensions of learning. While AI can support cognitive development through personalized instruction, teachers remain responsible for cultivating empathy, values, collaboration, and ethical reasoning—areas where human involvement is indispensable.

Significance of the Study: The present study is significant as it provides a deeper understanding of how Artificial Intelligence is reshaping the professional responsibilities of teachers in contemporary education. By examining the changing role of teachers in AI-supported learning environments, the study highlights the importance of human judgment, ethical awareness, and pedagogical adaptability in the effective use of emerging technologies. It offers valuable insights for teacher educators and training institutions to design professional development programmes that prepare teachers for technology-integrated classrooms. The study also assists policymakers and educational administrators in framing guidelines that promote responsible and learner-centered use of AI in schools and higher education institutions. Furthermore, it contributes to academic literature by emphasizing that technological advancement should complement, rather than replace, the human role of teachers, thereby supporting balanced, inclusive, and value-oriented education.

Statement of the Research Problem: The increasing use of Artificial Intelligence in education has changed classroom practices, but many teachers lack clear understanding of their new roles and responsibilities in AI-supported teaching. Insufficient preparedness and ethical guidance may limit the effective and meaningful use of AI in education. The present study seeks to examine this gap by exploring “Artificial Intelligence and New Responsibilities of Teachers”.

General Research Question: How does the integration of Artificial Intelligence in education influence the roles and responsibilities of teachers in the teaching–learning process?

Objectives

1. To identify the new responsibilities of teachers in balancing technology with human values in the age of Artificial Intelligence.

2. To find out the level of awareness and readiness to adopt Artificial Intelligence between teachers with and without AI training.
3. To find out the difference in teaching–learning effectiveness between teachers who frequently use AI tools and those who do not use AI.
4. To find out the relationship between Use of Artificial Intelligence and Teaching Learning Effectiveness.
5. To find out the attitudes towards Artificial Intelligence between teachers working in urban and rural institutions.

Hypotheses

H01: There is no significant difference in the level of awareness and readiness to adopt Artificial Intelligence between teachers with AI training and without AI Training.

H02: There is no significant difference in teaching–learning effectiveness between teachers who frequently use Artificial Intelligence tools and those who do not use AI.

H03: There is no significant relationship between the use of Artificial Intelligence and teaching–learning effectiveness.

H04: There is no significant difference in attitudes towards Artificial Intelligence between teachers working in urban and rural institutions.

Methodology: The present study is Descriptive Survey type research. This method was used by the researchers to study -"Artificial Intelligence and New Responsibilities of Teachers".

Population of the Study: The population of the present study consisted of **all** Teachers working in **High School**.

Sample of the Study: The sample for the present study comprised 200 Teachers. The sample included from both Teachers with AI Training and without AI Training.

Out of the total sample:

- 100 Teachers with AI Training were selected
- 100 Teachers without AI Training were selected.

Sampling Technique-

The sample was selected using the simple random sampling technique to ensure equal representation of Teachers and to reduce sampling bias. This technique provided every Teacher an equal opportunity to be included in the study.

Variables of the Study

Independent Variables	Dependent Variables
Use of AI	Teaching-Learning Effectiveness

Tools used: The present study employed both primary data collection instruments and statistical tools to examine Artificial Intelligence and Responsibilities of Teachers. For present study researchers used Questionnaire and Likert-type Scale for necessary investigation covering:

Procedure for Data Collection

Primary Data Collection: After procuring the standardized tools, researcher went to some Teachers Training Institution for data collection. Researchers clarify their identification for data collection. They are very much co-operate with Researcher. The valid information was given by them.

Secondary Data Collection: Researchers go through Journals, Books and Articles on Women's Empowerment to gather some knowledge on it.

Objective Wise Statistical Analysis And Interpretation

Objective-1: To identify the new responsibilities of teachers in balancing technology with human values in the age of Artificial Intelligence.

Table No. 1: Percentage wise new responsibilities of teachers in balancing technology with human values in the age of Artificial Intelligence.

New Responsibilities of Teachers	No. of Teachers	Percentage (%)	Rank
Ethical guidance in the use of AI (originality, honesty, integrity)	34	17.0	I
Balancing technology with human values	30	15.0	II
Facilitating critical thinking on AI-generated content	26	13.0	III
Personalized learning support through human judgment	22	11.0	IV
Monitoring bias and ensuring fairness in AI tools	20	10.0	V
Protecting data privacy and responsible data use	18	9.0	VI
Emotional and social development of learners	17	8.5	VII
Assessment oversight and fair evaluation	14	7.0	VIII
Continuous professional development in AI	11	5.5	IX
Guiding responsible technology use among students	8	4.0	X

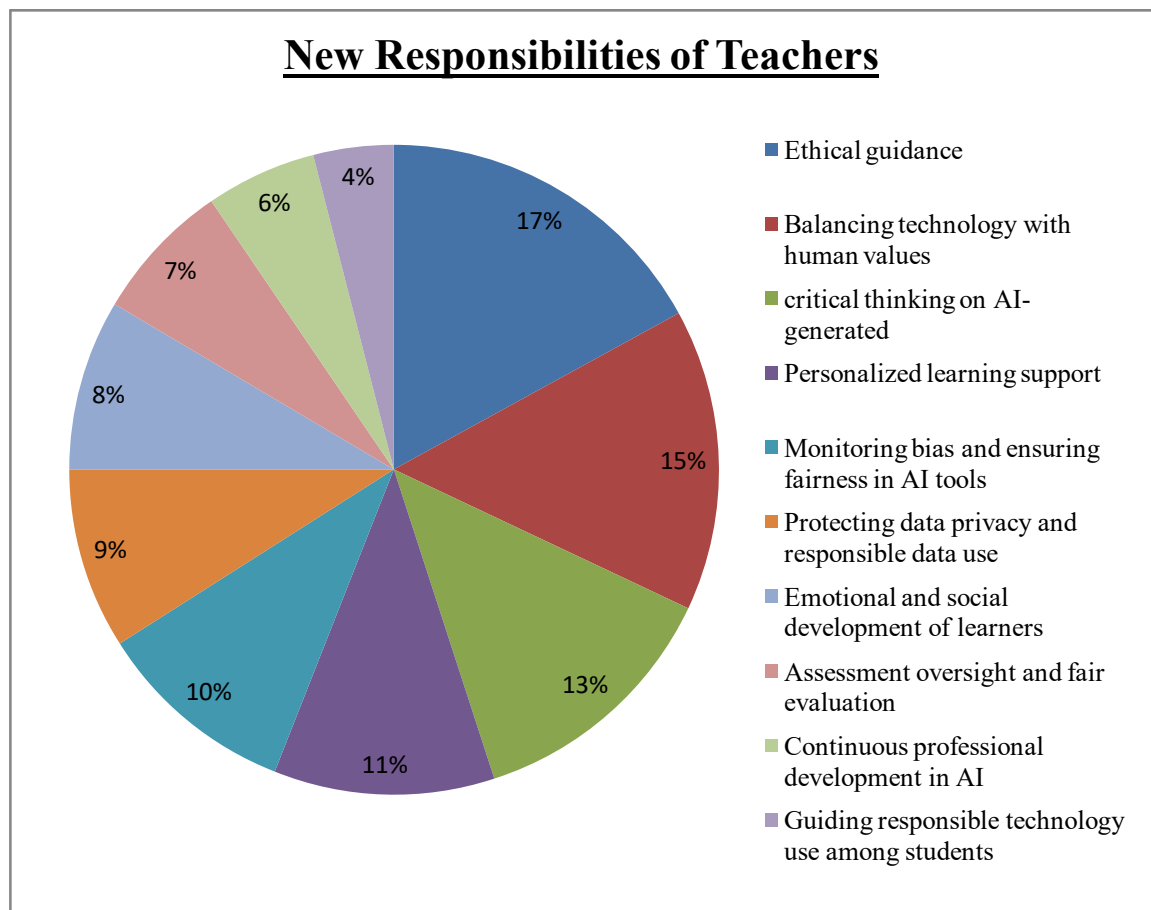


Fig. No. 1: new responsibilities of teachers in balancing technology with human values in the age of Artificial Intelligence.

Interpretation: The analysis reveals that ethical guidance in the use of Artificial Intelligence ranks first (17%), indicating that teachers consider maintaining academic integrity and honesty as their most important responsibility. Balancing technology with human values (15%) ranks second, highlighting concern for preserving empathy and moral education in technology-rich classrooms. Responsibilities such as facilitating critical thinking and personalized learning support also received notable emphasis. Lower ranks were assigned to continuous professional development and guiding responsible technology use, suggesting a need for greater institutional support and awareness in these areas. Overall, the findings reflect teachers' strong commitment to safeguarding human values while adapting to Artificial Intelligence in education. Lower priority assigned to continuous professional development and guiding responsible technology use may indicate that teachers feel constrained by limited training opportunities or institutional support.

Objective-2: To find out the level of awareness and readiness to adopt Artificial Intelligence between teachers with and without AI training.

Hypothesis

H01:

There is no significant difference in the level of awareness and readiness to adopt Artificial Intelligence between teachers with AI training and without AI Training.

Mean difference-

After data analysis the following was found-

Table No. 2: Mean difference in the level of awareness and readiness to adopt Artificial Intelligence between Teachers with AI training and without AI Training

Group	N	Total Score	Mean	SD	df	MD	SEM	SED	t-ratio	P Value	Table Value	Remarks
Teachers with AI Training	100	378	3.78	0.56	198	0.49	0.05	0.08	5.90	<0.01	1.97(at 0.05 level)	Null hypothesis rejected and Research hypothesis accepted.
Teachers Without AI Training	100	329	3.29	0.61			0.06				2.60(at 0.01 level)	

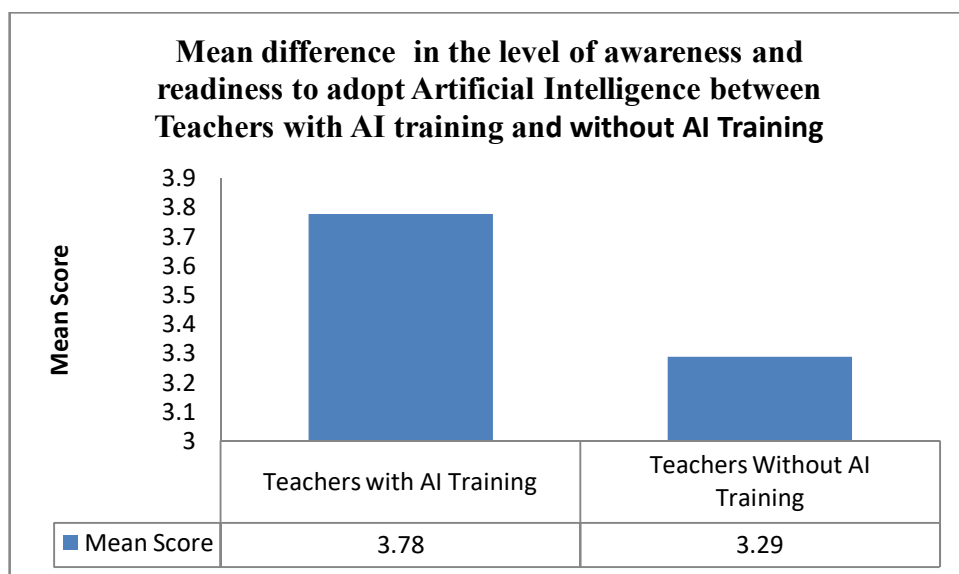


Fig. No. 2 Mean difference in the level of awareness and readiness to adopt Artificial Intelligence between Teachers with AI training and without AI Training

Interpretation: The Mean score of Teachers with AI Training ($M=3.78$, $SD=0.56$) is higher than that of Teachers without AI Training ($M=3.29$, $SD=0.61$). The Calculated t-value(5.90) exceeds the critical values at both 0.05 and 0.01 levels of significance. Thus, the null hypothesis is rejected. There is a significant difference in the level of awareness and readiness to adopt Artificial Intelligence between teachers with AI training and without AI Training. This highlights the importance of professional training in preparing teachers for AI-supported education.

Objectives-3: To find out the difference in teaching–learning effectiveness between teachers who frequently use AI tools and those who do not use AI.

Hypothesis-

H02:

There is no significant difference in teaching–learning effectiveness between teachers who frequently use Artificial Intelligence tools and those who do not use AI.

Mean difference-

After data analysis the following was found-

Table No. 3: Mean difference in teaching–learning effectiveness between teachers who frequently use AI and those who do not use AI.

Group	N	Total Score	Mean	SD	df	MD	SEM	SED	t-ratio	P Value	Table Value	Remarks
Teachers who frequently use AI	100	384	3.84	0.52	198	0.42	0.052	0.078	5.38	<0.01	1.97(at 0.05 level)	Null hypothesis rejected and Research hypothesis accepted.
Teachers who do not use AI	100	342	3.42	0.58			0.058				2.60(at 0.01 level)	

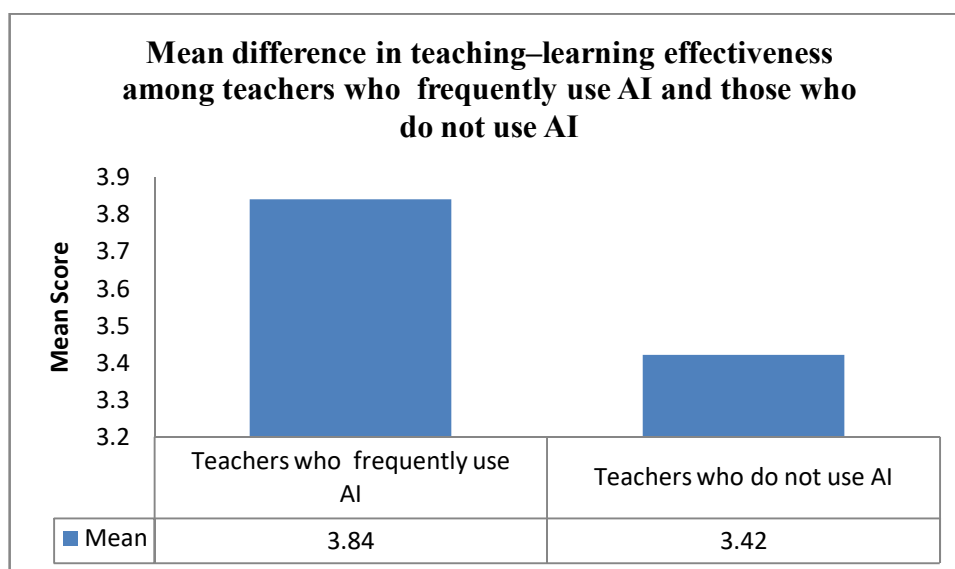


Fig. No. 3: Mean difference in teaching–learning effectiveness between teachers who frequently use AI and those who do not use AI.

Interpretation: The Mean score of Teachers who frequently use AI ($M=3.84$, $SD=0.52$) is higher than that of Teachers who do not use AI ($M=3.42$, $SD=0.58$). The Calculated t-value(5.38) exceeds the critical values at both 0.05 and 0.01 levels of significance. Thus, the null hypothesis is rejected. There is a significant difference in teaching–learning effectiveness between teachers who frequently use Artificial Intelligence tools and those who do not use AI. This highlights the importance of professional training in preparing teachers for AI-supported education. suggesting that appropriate use of Artificial Intelligence can positively support instructional practices when guided by human judgment.

Objective 4: To find out the relationship between Use of Artificial Intelligence and Teaching Learning Effectiveness.

Hypothesis-

H03:

There is no significant relationship between the use of Artificial Intelligence and teaching–learning effectiveness.

Correlation

Table No. 4: Correlation between Use of Artificial Intelligence and Teaching–learning effectiveness

Category	No. Of Sample	Df(N-2)	r Value	Correlation
Use of Artificial Intelligence	100	98	0.79	Moderate to high positive correlation
Teaching–learning effectiveness	100	98		

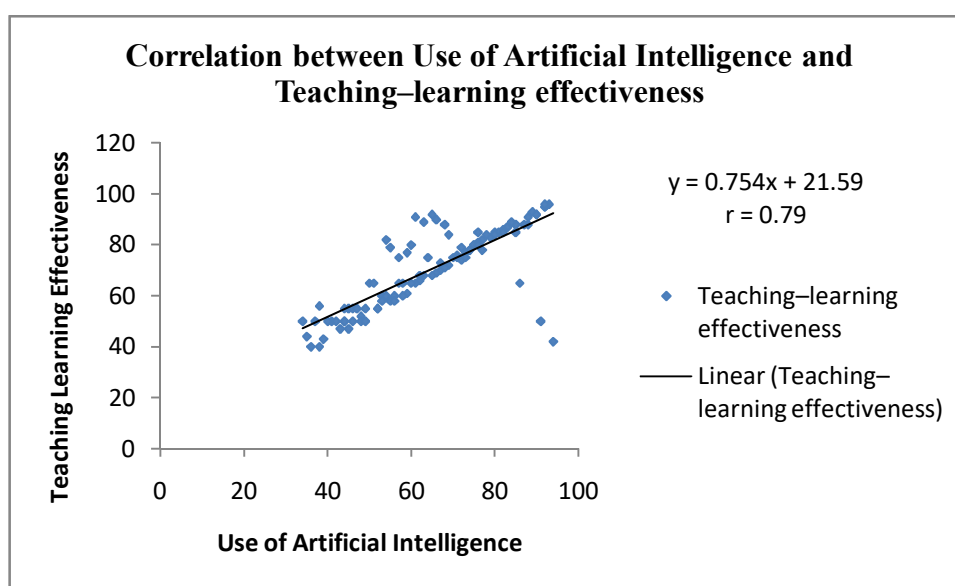


Fig. No. 4: Correlation between Use of Artificial Intelligence and Teaching–learning effectiveness

Interpretation: The obtained correlation coefficient($r=0.79$) between the use of Artificial Intelligence and teaching–learning effectiveness is positive and statistically significant, as it exceeds the critical table value at both 0.05 and 0.01 levels of significance. Hence, the null hypothesis is rejected, and alternative hypothesis is accepted.

A moderate to high positive correlation ($r=0.79$) shows that as teachers' use of AI tools increases, teaching–learning effectiveness also tends to improve. The positive association highlights the supportive role of Artificial Intelligence in enhancing instructional practices when used appropriately.

Objective-5: To find out the attitudes towards Artificial Intelligence between teachers working in urban and rural institutions.

Hypothesis-

H04:

There is no significant difference in attitudes towards Artificial Intelligence between teachers working in urban and rural institutions.

Mean difference-

After data analysis the following was found-

Table No. 5: Mean difference in attitudes towards Artificial Intelligence between teachers working in urban and rural institutions.

Group	N	Total Score	Mean	SD	df	MD	SEM	SED	t-ratio	P Value	Table Value	Remarks
Teachers working in urban area	100	378	3.78	0.62	198	0.33	0.067	0.091	3.52	<0.01	1.97(at 0.05 level)	Null hypothesis rejected and Research hypothesis accepted.
Teachers working in Rural area	100	345	3.45	0.67			0.062				2.60(at 0.01 level)	

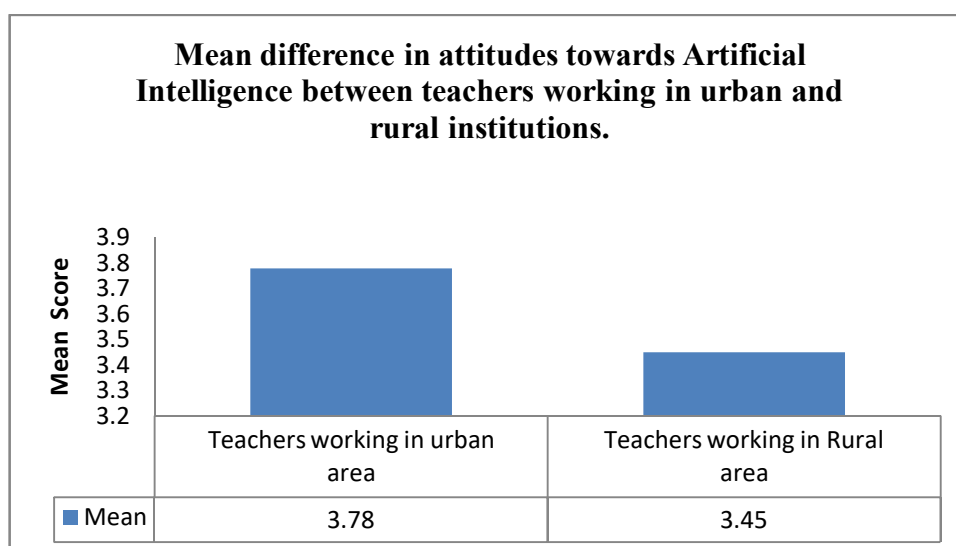


Fig. No. 5: Mean difference in attitudes towards Artificial Intelligence between teachers working in urban and rural institutions

Interpretation: The Mean score of Teachers working in urban area ($M=3.78$, $SD=0.62$) is higher than that of Teachers working in Rural area ($M=3.45$, $SD=0.67$). The Calculated t-value(3.52) exceeds the critical values at both 0.05 and 0.01 levels of significance. Thus, the null hypothesis is rejected. There is a significant difference in attitudes towards Artificial Intelligence among teachers working in urban and rural institutions.

Major Findings

1. The study found that teachers increasingly recognize new professional responsibilities in the AI-driven educational environment. These include guiding ethical technology use, nurturing human values, ensuring inclusivity, and maintaining emotional and moral connections with learners. Teachers viewed

Artificial Intelligence as a supportive instructional aid that must be balanced with human judgment, empathy, and value-based education.

2. Teachers who had received training in Artificial Intelligence exhibited higher levels of awareness, confidence, and readiness to integrate AI tools into teaching. In contrast, teachers without AI training showed comparatively lower awareness and expressed concerns related to technical complexity and ethical issues.
3. The findings revealed a significant difference in teaching–learning effectiveness between teachers who frequently used AI tools and those who did not. Regular users of AI reported better lesson organization, enhanced student engagement, and improved assessment practices.
4. A moderate to high positive relationship was observed between the use of Artificial Intelligence and teaching–learning effectiveness. Increased and purposeful use of AI tools contributed positively to instructional delivery, learner participation, and feedback processes.
5. Urban teachers demonstrated more favorable attitudes towards Artificial Intelligence compared to rural teachers. This difference was primarily attributed to variations in access to digital infrastructure, training opportunities, and institutional support.

Educational Implications

1. Teacher education programmes should integrate Artificial Intelligence literacy as an essential component.
2. Continuous professional development is required to promote ethical and pedagogical use of AI.
3. Educational institutions should emphasize value-based integration of technology.
4. Special initiatives are needed to support AI readiness among rural teachers.
5. Policy makers should ensure equitable access to digital resources and training.

Suggestions for Further Improvement

1. Regular in-service training programmes on Artificial Intelligence should be organized for teachers.
2. Curriculum designers should incorporate ethical considerations related to AI use in education.
3. Government agencies should strengthen digital infrastructure in rural institutions.
4. Teachers should be encouraged to adopt a reflective approach while using AI tools.
5. Further studies may examine the long-term impact of AI use on students' social and moral development.

Conclusion: The study concludes that Artificial Intelligence has a significant influence on contemporary teaching–learning processes and teacher roles. While AI enhances instructional effectiveness, its educational value depends on teachers' awareness, ethical orientation, and professional preparedness. Teachers trained in AI are better equipped to integrate technology meaningfully without undermining human values. The findings highlight that Artificial Intelligence should complement, not replace, the human elements of teaching such as empathy, moral guidance, and critical judgment.

References

- Holmes, W., Bialik, M., &Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign.
- Luckin, R., Holmes, W., Griffiths, M., &Forcier, L. B. (2016). Intelligence unleashed: An argument for AI in education. Pearson.
- Mishra, P., & Koehler, M. J. (2006). Technological pedagogical content knowledge: A framework for teacher knowledge. Teachers College Record, 108(6), 1017–1054.
- Selwyn, N. (2019). Should robots replace teachers? AI and the future of education. Polity Press.
- UNESCO. (2019). Artificial intelligence in education: Challenges and opportunities for sustainable development. UNESCO Publishing.
- Venkatesh, V., Morris, M. G., Davis, G. B., & Davis, F. D. (2003). User acceptance of information technology. MIS Quarterly, 27(3), 425–478.
- Zawacki-Richter, O., Marín, V. I., Bond, M., &Gouverneur, F. (2019). Artificial intelligence applications in higher education: A systematic review. International Journal of Educational Technology in Higher Education, 16(39), 1–27.

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