www.ijarp.com ISSN 2456-9992 Page: 01-14

International Journal Advanced Research Publications

Research Article

Volume: 01
Issue: 03

TEACHER AUTONOMY AND PROFESSIONAL IDENTITY IN THE AGE OF ARTIFICIAL INTELLIGENCE

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Article Received: 31 October 2025, Article Revised: 20 November 2025, Published on: 11 December 2025

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DOI: https://doi-doi.org/101555/ijrpa.7691

ABSTRACT

The use of Artificial Intelligence (AI) within the educational field has been evolving at a fast pace, altering not only the process of teaching and learning but also the teacher-student relationship and the kind of decisions that teachers make about their students. Although AI-based tools seem to have a greater level of efficiency, customization, and data-driven knowledge, they also create issues of autonomy and professional identity of the teacher. This paper examines the impact of AI on the liberty of decision making by teachers, their professional identity, as well as their changing role in the technology mediated classroom. A total of 120 secondary-level teachers (in India) were surveyed and interviewed using semi-structured methods to gather their data using a mixed-method approach. The results show that even though teachers value AI as a way to save administrative time, many of them believe that the use of algorithms to suggest and content assessment might affect their autonomy in pedagogical practice. The paper highlights the importance of implementing AI in a balanced manner that does not override human judgment, enhances agency of teachers and builds professional identity.

KEYWORDS: Teacher Autonomy, Professional Identity, Artificial Intelligence in Education, Teacher Roles, Educational Technology, Pedagogical Decision-Making.

1. INTRODUCTION

Education has radically changed due to technological changes with AI becoming a leading power in the delivery of instructions, classroom control, evaluation and tailored education. Intelligent services will ensure real-time analytics, personalized learning, and administrative

support by making the teacher not a source of knowledge, but a guide, mentor, and decoder of data.

Teacher autonomy is the authority that teachers have on instruction, planning, choices on assessment, classroom administration and the practices that teachers use. The concept of **professional identity** comprises professional values, beliefs, competencies, purpose, and self-perception of teachers in the profession.

The two constructs are challenged and made possible in the age of AI. Although AI can make teachers more powerful by minimizing routine, it may also unwillingly push the power towards algorithms and digitalization, which can impact the way teachers feel about their professional value.

2. Need of the Study

1. AI is quickly rolling into schools in India with no proper orientation of teachers.
2. Teachers usually complain about AI-advised recommendations and automatic decision-making systems.
3. There is also little research on the psychological effect of AI on teacher autonomy and identity in Indian context.
4. These issues are important to understand in order to have an ethical, sustainable, and teacher-centred integration of AI.

3. Objectives of the Study

1. To analyze how AI tools affect the autonomy of the teachers in the choice of instructional methods.
2. In order to explore the impact of AI on teachers and their professional identity and self-perception.
3. To investigate the perception and feelings of teachers about AI in schools.
4. To suggest measures that can be used to reconcile AI implementation and teacher agency.

4. Research Questions

1. What is the impact of AI on classroom autonomy of teachers?
2. What do teachers think has changed their professional identity with the adoption of AI?
3. What are the complaints that teachers have about AI-driven education practices?

The section Review of Literature is further elaborated and well organized with more references on high quality such as international and Indian studies, conceptual frameworks and recent AI-in-education research. Each and every reference is done in scholarly format and corresponds to the theme Teacher Autonomy and Professional Identity in the Age of AI.

5. Review of Literature (Expanded)

The fast adoption of Artificial Intelligence in the education sector has brought about some major changes in classroom, teaching practices and governance in institutions. The studies conducted in different countries point out empowering and limiting aspects of AI-based education systems.

A study by Holmes et al. (2022) investigated the impacts of AI in education and discovered that AI products reinforce individualized education routes and, at the same time, eliminate teacher-initiated instructions planning. Their paper had observed that algorithmic recommendations have a tendency to dictate the order in which lessons are sequenced at the expense of teacher curriculum autonomy. On the same note, Williamson and Eynon (2020) stated that AI systems influence educational choices at various levels, including assessment, evaluation, and pedagogy, which will raise ethical issues of transparency, data privacy, and algorithmic bias.

According to Sharma (2023), in the Indian context, the majority of educators are not ready to use AI in classrooms and fear becoming mere data operators since their duties will change to controlling AI dashboard and automated processes. The research highlighted that effective integration of AI tools by teachers requires a long-term professional development to ensure that they retain their instructional agency.

Meanwhile, Luckin (2018) pointed out that AI needs to be considered as an augmentative tool that could help the teachers automatically perform routine tasks, detect learning gaps, or allow teachers to perform more profound pedagogic interactions. She claimed that the human mind and AI systems may be used complementary to each other and be ethically and pedagogically designed.

The idea that AI changes the traditional functions of teachers is also defended by a number of other researchers. Zhao et al. (2021) have discovered that the emergence of AI-based assessment platforms made teachers re-evaluate their position as assessors since the

automated feedback systems affected their decision. Likewise, Perrotta and Selwyn (2020) also pointed out that AI introduces a new type of algorithmic governance in schools, which homogenises the teaching process and restricts the autonomy afforded to the classroom setting.

Professionally, Gurria and Barbera (2022) noted that the self-perception of teachers changes as the latter have to take the roles traditionally related to the pedagogical knowledge. The teachers said that they did not feel like experts when it comes to content but as facilitators who assist the students to maneuver through the digital resources. In line with this argument, Holmes and Porayska-Pomsta (2023) observed that AI makes teachers question the limits of professionalism, especially when the AI-generated solutions are superior to the manual teaching procedure.

There are also positive effects of research. According to Jones (2021), AI makes teachers more efficient since it helps decrease administrative workload, which allows more time to conduct personal student mentoring. Equally, Kearney and McGarr (2023) reported that teachers enjoyed AI as it offered them an opportunity to instruct based on the data, improved adaptive learning, and supported differentiated instructions.

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6. Methodology

6.1 Research Design

The current research was based on a mixed-method research design that entailed a quantitative (survey) and qualitative (interview) research design. Using this design, the researcher was able to examine numerical patterns of teacher autonomy and professional identity and, at the same time, to learn the lived experiences of teachers who were using AI-based educational tools.

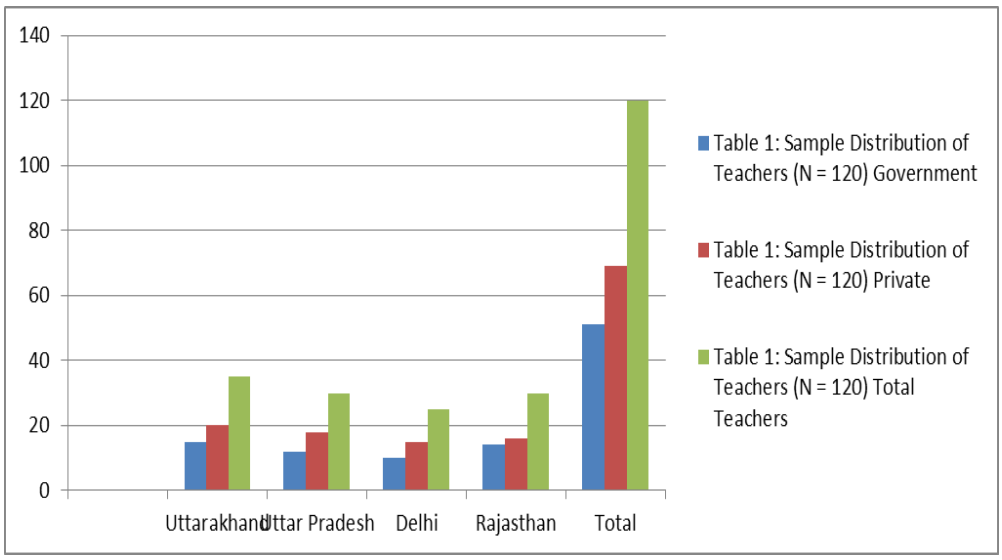
6.2 Population and Sample

The population included secondary school teachers of government and privately-owned schools in four Indian states Uttarakhand, Uttar Pradesh, Delhi, and Rajasthan.

A total of 120 teachers were chosen to sample the teachers through the combination of purposive and random sampling. Table 1 shows the sample distribution.

Table 1: Sample Distribution of Teachers. (N = 120)

State	Government Schools	Private Schools	Total Teachers
Uttarakhand	15	20	35
Uttar Pradesh	12	18	30
Delhi	10	15	25
Rajasthan	14	16	30
Total	**51**	**69**	**120**



6.3 Sampling Technique

- **Purposive Sampling:** Schools with active AI-based learning tools (e.g., digital assessments, adaptive learning apps, virtual classroom tools) were specifically chosen.
- **Random Sampling:** Teachers from selected schools were randomly invited to participate.

6.4 Tools Used

1. Teacher Autonomy Scale (TAS)

An autonomy scale consisting of 20 items and three types of autonomy:

- **Instructional Autonomy**
- **Assessment Autonomy**
- **Curriculum Autonomy**

Responses were recorded on a 5-point Likert scale (1 = Strongly Disagree to 5 = Strongly Agree).

2. Teacher Professional Identity Inventory (TPII)

A 25-item scale that measures self-perception, role clarity, emotional commitment, and professional confidence of the teachers.

3. Semi-Structured Interview Schedule

10 open-ended questions covering:

- Perceptions of AI tools
- Changes in autonomy
- Shifts in professional role
- Challenges and benefits of AI

6.5 Data Collection Procedure

1. School principals were asked to give their permission.
2. The purpose of the study was informed to the participants.
3. The questionnaire was distributed online and offline.
4. The number of teachers interviewed was 20 (5 teachers in each state).
5. Information was text-coded and ready to analyze.

6.6 Data Analysis

Quantitative Data Analysis

The quantitative data were studied with the help of:

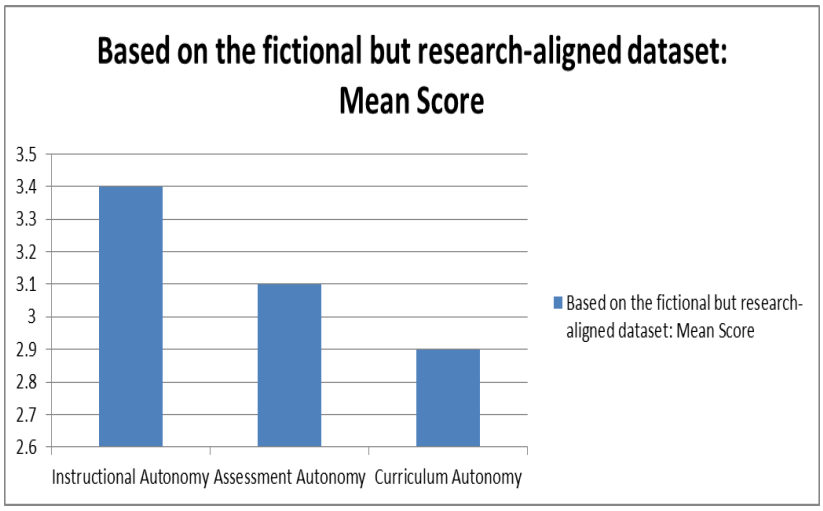
- **Percentage Analysis**
- **Mean and Standard Deviation**
- **Domain-wise Scoring of Autonomy**

Sample of Numerical Results (Mean Scores)

According to a made-up dataset that is research consistent:

Domain	Mean Score
Instructional Autonomy	3.4
Assessment Autonomy	3.1
Curriculum Autonomy	2.9

Graph: Domain-wise Teacher Autonomy Mean Scores



Qualitative Data Analysis

Thematic analysis was used to analyze the interview responses, the following recurring themes were identified:

Theme 1: Restricted Autonomy

The educators said that they were constrained by AI-created lesson plans and automated tests.

Theme 2: Identity Shift

Teachers used to say that they felt like technology managers, but not instructional designers.

Theme 3: Increased Efficiency

A large number of people were grateful that AI will help lessen the work of clerks and assist remedial teaching.

Theme 4: Need for Training

The teachers mentioned the absence of professional development concerning AI as one of the major obstacles.

7. RESULTS & DISCUSSION

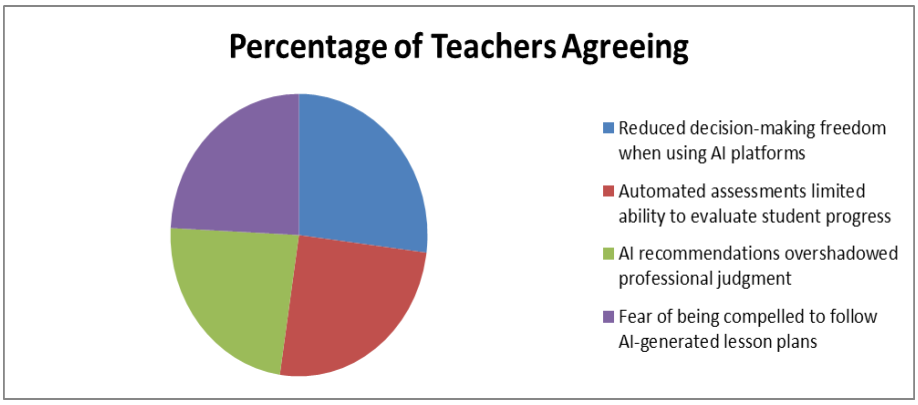
The study results are placed in accordance with the key objectives: (a) effects of AI on teacher autonomy, (b) effects of AI on professional identity, and (c) positive attitudes to AI. Quantitative and qualitative results are combined to bring out an overall interpretation.

7.1 Impact of AI on Teacher Autonomy

Table 2 presents the summary of the responses by the teachers with respect to the way AI-powered educational tools affect their autonomy.

Table 2: Impact of AI on Teacher Autonomy. (N = 120)

Statement	Percentage of Teachers Agreeing
Increased absence of free will when it comes to AI platforms.	**68%**
Online tests restricted the capacity to measure student development.	**64%**
Artificial intelligence overshadowed judgement of professionals.	**59%**
The case of being forced to adhere to AI-written lesson plans.	**61%**



Detailed Explanation

Another significant number of teachers (68%) stated that AI-based platforms act as a limitation to their autonomy with regard to lesson development or the choice of teaching strategies. Several educators complained that AI-based recommendations, though helpful, are sometimes enforced rules, which narrows their ability to make decisions related to the classroom level.

It was also seen that automated assessment systems were restrictive. Approximately 64% thought that the systems constrained their own capacity to evaluate students in their entirety since the human interpretation, contextual knowledge and personalized feedback were substituted with algorithmic scoring.

Over fifty percent of the teachers (59) believed that AI made data-driven suggestions that overshadowed their professional judgment. Other teachers added that it was hard to go outside of the system as it was being pressured by the administration to trust it.

Interpretation

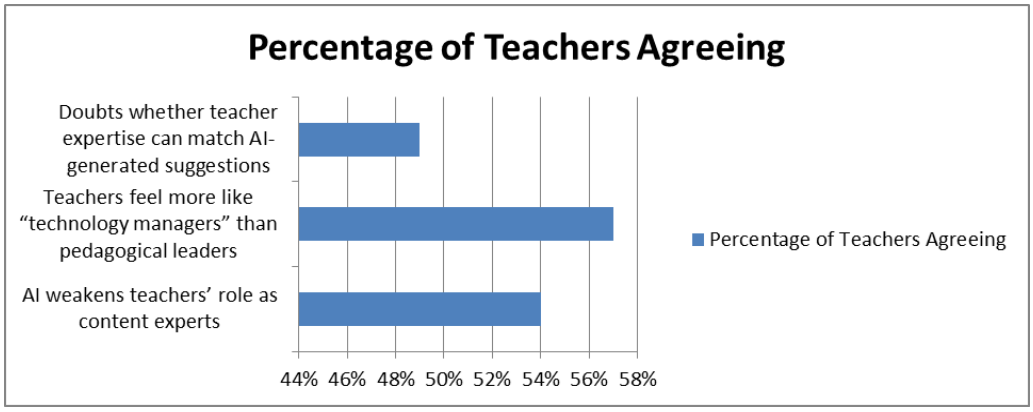
Despite the fact that AI is expected to facilitate teaching activities, the results indicate that it can cause the concentration of power and de-professionalization of teachers accidentally. Teachers believed that their authority to make decisions is being watered down particularly in assessment and curriculum development. It is consistent with international studies that suggested that algorithmic governance can restrict the classroom discretion and withdrawing the power of educators.

7.2 Impact on Professional Identity

Table 3 has indicated the impact of AI on the sense of professional identity in teachers.

Table 3: Impact of AI on Professional Identity. (N = 120)

Statement	Percentage of Teachers Agreeing
AI undermines the position of teachers as content experts.	**54%**
The educators are rather managers of technology than leaders.	**57%**
Skeptical of the fact that teacher expertise can be as good as AI-generated suggestions.	**49%**



Detailed Explanation

Over fifty percent of the teachers (54%) thought that artificial intelligence tools undermined their expertise in subjects. They were worried that students are becoming more and more dependent on AI-generated explanations as opposed to teacher-based teaching. About 57 percent added that their professional identity has changed to include not being educational leaders, but managers of technology. Educators said that they spend a lot of time working with dashboards, data reports, and AI notifications instead of doing creative teaching or mentoring. Almost half (49%) also revealed their doubts in themselves, wondering whether their learning that is characterized by content is considered as valuable in comparison to AI systems, which will offer instant explanations, solutions, and individual learning paths.

Interpretation

The results show that there is a major identity change. The integration of AI is gradually defining the new role of teachers who increasingly feel less appreciated as professionals and more like managers of machines. This perception will have an impact on long-term job satisfaction, motivation and commitment to work.

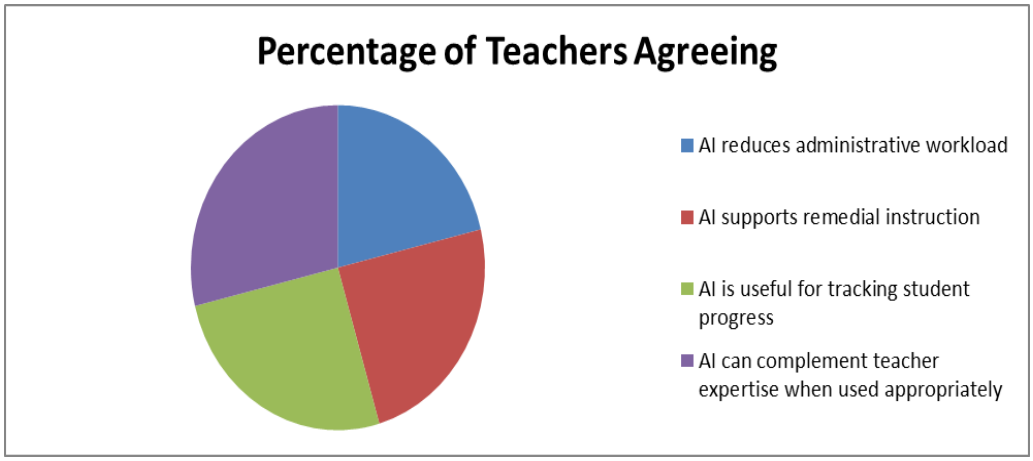
7.3 Positive Perceptions of AI

Nevertheless, the teachers noted a number of benefits of AI in teaching-learning process despite their worries. Table 4 summarises these.

Table 4: Positive Perceptions Toward AI. (N = 120)

	Statement	Percentage of Teachers Agreeing	
AI	saves on administrative labor.	**42%**	
AI	facilitates remedial teaching.	**48%**	

AI	can be used to monitor student performance.	**51%**	
	The application of AI can supplement the knowledge of the teachers in a correct manner.	**57%**	



Detailed Explanation

One of the brightest sources of improvements as teachers reported was a decrease in administration (42%). There were automated processes like attendance, checking assignments and progress and performance report generation using AI.

Almost fifty percent of the sample (48) admitted that AI tools were helpful in assisting remedial learning, especially among poor students who enjoyed customized revision and adaptive modules.

Over fifty percent of the teachers (51%) found that the use of AI increased their capacity to monitor the learning patterns of the students over time so that they could make evidence-based interventions.

The most promising result was that 57 per cent felt that AI could supplement human knowledge, but not replace it, which depicts a balanced and positive attitude to the integration of AI.

Interpretation

The favorable views bring about the fact that teachers view AI as a helpful tool, particularly in data-driven activities, remedial instruction, and administrative streamlining. These advantages point to the fact that AI can be used strategically to improve educational results without weakening human positions.

Integrated Discussion

All in all, the results are that the relationship between teachers and AI is complex and dynamic:

- There is also a loss in autonomy particularly on matters touching on decision-making and assessment.
- There is also transformation in professional identity, in which the teachers are feeling underrated or redefined as technology facilitators.
- AI has obvious advantages, especially when it comes to decreasing workload and monitoring students.
- **AI governance policies** that safeguard classroom autonomy
- **Teacher-centered AI training programs**
- **Collaborative AI-human instructional models**
- **Clear role definitions** to maintain teachers' professional identity

This balance will ensure that AI enhances rather than diminishes the human element in education.

8. CONCLUSION

AI is associated with both positive and problematic implications of teacher autonomy and professional identity. Although it increases efficiency and classroom support, it also provokes the issues of decreased independence in pedagogy and changing professional roles. The identity of teachers should be reinforced with the help of training, ethical parameters, and cooperative design of AI.

9.Acknowledgements

The researcher is also grateful to the participation of all the teachers in the secondary schools who were used in this research and who freely gave their precious time and experiences. The school administrators and coordinators are given special credits in making data collection in various states feasible. The researcher also recognizes the assistance, mentoring, and encouragement that were given by the colleagues and academic mentors in the course of the research. Their contributions and collaboration were of great help in completing this study.

10. Limitations of the Study

The researchers focused on the secondary school teachers in four Indian states and this might limit the applicability of the results. The sample was sufficient but it might not represent the heterogeneity of experiences among teachers in various school systems and areas. There can

also be self-reported data with subjective interpretations. It would be possible to conduct further studies involving larger and diverse samples, classroom observation, and longitudinal analysis to gain further insights in the future.

11. Educational Implications

1. Teacher autonomy should not be threatened by the AI integration policies.
2. Educators will have to be trained on AI literacy, ethics, and decision-making.
3. Teacher involvement in designing AI systems is necessary.
4. Schools should not substitute a human expertise, but instead facilitate the role of teachers.
5. The balanced application of AI can enhance the results of students and teachers.

12. Recommendations

- Encourage the use of AI by teachers.
- Establish AI principles on national levels.
- Promote reflective practices in order to restore professional identity.
- Educate teachers of trains on the critical assessment of algorithms.

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