

## National Level Conference on Transformative Higher Education: Skills, Equity & Innovation (THE-SEI 2026)

Collaboratively Organized By:

Dnyan Ganga Education Trust's College of Education (B.Ed.), Thane, Maharashtra &  
SSRMT'S SSR College of Education, Saily, Silvassa, UT of NH & DD

# Bridging Awareness and Practice: Ethical Preparedness for Artificial Intelligence Use among B.Ed. Student Teachers

Mr. Nandkishor Damodhar Bodkhe<sup>1</sup>

<sup>1</sup> Assistant Professor, SSR College of Education, Silvassa, UT of Dadra and Nagar Haveli

### Abstract

Artificial Intelligence (AI) has emerged as a transformative force in education, reshaping teaching methodologies, assessment practices, and learner engagement. While AI offers significant pedagogical benefits, it simultaneously raises ethical concerns such as data privacy, academic integrity, algorithmic bias, and over-dependence on technology. The present study examines the ethical preparedness of B.Ed. student teachers in relation to AI usage in educational contexts. Using a descriptive survey method, data were collected from 77 student teachers through a structured questionnaire. The findings reveal a high level of awareness regarding ethical issues; however, there exists a substantial gap in formal training and practical preparedness. The study highlights the discrepancy between conceptual understanding and real-world application, emphasizing the need for structured integration of AI ethics in teacher education programmes. The paper concludes with recommendations for curriculum reform, experiential training, and policy-level interventions to ensure responsible and value-based use of AI in education.

**Keywords:** Artificial Intelligence, Ethical Preparedness, Teacher Education, AI Ethics, Digital Pedagogy, Educational Technology.

### 1. Introduction

The rapid advancement of Artificial Intelligence (AI) has significantly transformed multiple sectors, including education. AI-driven tools such as intelligent tutoring systems, automated grading platforms, learning analytics, and generative AI applications are increasingly being integrated into teaching and learning processes. These technologies offer opportunities for personalized learning, improved efficiency, and enhanced academic support.

However, alongside these benefits, AI introduces complex ethical challenges. Issues such as plagiarism through AI-generated content, data privacy risks, algorithmic bias, misinformation, and excessive reliance on technology pose serious concerns. In educational settings, these challenges are particularly critical as they directly affect teaching quality, student learning outcomes, and academic integrity.

Teacher education plays a pivotal role in preparing future educators to navigate these challenges. B.Ed. student teachers, as prospective educators, must not only understand AI tools but also use them responsibly and ethically. Ethical preparedness involves awareness, critical thinking, and the ability to apply ethical principles in real-life teaching scenarios.

Despite increasing exposure to AI technologies, there is limited evidence regarding whether student teachers are adequately prepared to use AI ethically. This study addresses this gap by examining both awareness and preparedness, thereby providing a comprehensive understanding of ethical AI use in teacher education.

### 2. Review of Literature

The integration of AI in education has been widely discussed in recent academic literature. Scholars have highlighted both its transformative potential and associated ethical concerns.

Studies indicate that AI can enhance personalized learning and support differentiated instruction. However, researchers also emphasize the risks of bias in AI algorithms, which may reinforce existing inequalities. Ethical concerns such as data misuse and lack of transparency have been identified as major challenges in AI adoption.

Research on teacher education suggests that while educators are increasingly using digital tools, their preparedness for ethical technology use remains inadequate. Several studies have reported that teachers often lack formal training in digital ethics, leading to inconsistent practices.

Further, literature highlights the importance of integrating ethics into technology education. Ethical frameworks stress principles such as fairness, accountability, transparency, and privacy. In the context of education, these principles must be aligned with pedagogical values such as student autonomy, critical thinking, and inclusivity.

Recent studies also reveal that students and teachers are aware of AI tools but rely heavily on self-learning rather than structured guidance. This creates a gap between

awareness and application. Without proper training, users may unintentionally engage in unethical practices such as plagiarism or misuse of AI-generated information.

Overall, the literature underscores the need for systematic inclusion of ethical AI training in teacher education programmes. However, empirical studies focusing specifically on B.Ed. student teachers remain limited, justifying the need for the present research.

### 3. Objectives of the Study

1. To examine the level of awareness of ethical issues related to AI among B.Ed. student teachers.
2. To assess the extent of formal training received in ethical AI usage.
3. To analyse the gap between awareness and practical preparedness.
4. To identify challenges faced in ethical AI implementation.
5. To suggest strategies for improving ethical preparedness in teacher education.

### 4. Research Methodology

#### 4.1. Research Design

The study employed a descriptive survey design to collect quantitative and qualitative data regarding ethical AI awareness and preparedness.

#### 4.2. Sample

The sample consisted of 77 B.Ed. student teachers from various teacher education institutions. The participants included both male and female student teachers, with a higher representation of female respondents.

### 4.3. Tool Used

A structured questionnaire was developed by the researcher. It included:

- Closed-ended questions (Likert scale and multiple-choice)
- Open-ended questions for qualitative insights

The tool covered:

- Awareness of AI tools
- Ethical understanding
- Training exposure
- Usage frequency
- Challenges and perceptions

### 4.4. Data Analysis

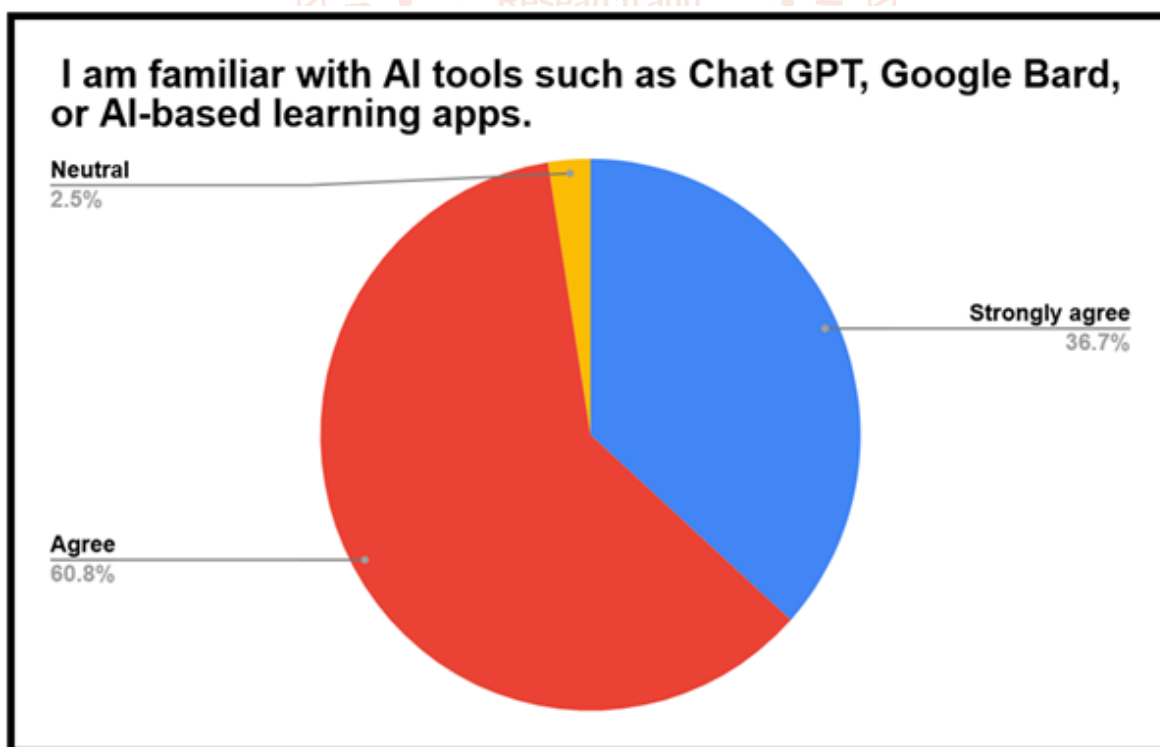
Quantitative data were analysed using percentage statistics. Qualitative responses were analysed through thematic interpretation to identify recurring patterns and insights.

### 5. Results and Analysis

#### 5.1. Awareness of AI Tools

The findings indicate that a majority of student teachers are familiar with AI tools such as generative AI platforms and educational applications. This reflects the growing integration of AI in higher education.

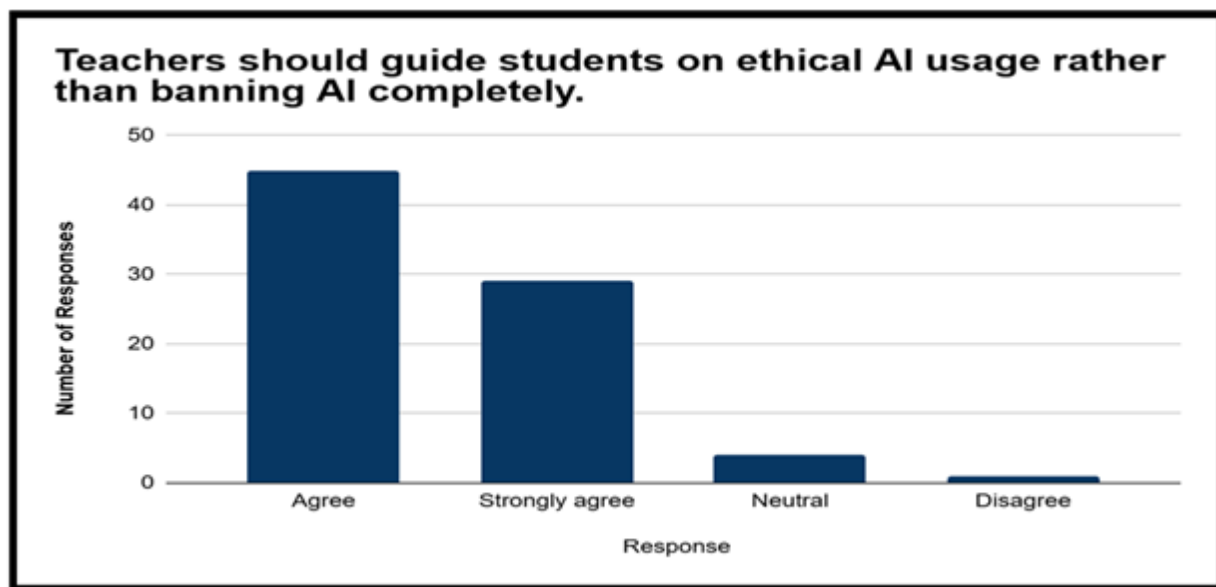
High familiarity suggests that student teachers are actively engaging with AI technologies, making ethical awareness a critical requirement.



#### 5.2. Training and Orientation

Despite high awareness, only a small percentage of respondents reported receiving formal training in ethical AI usage. The majority indicated the absence of structured guidance.

This highlights a significant gap between exposure and institutional support. Without formal training, ethical practices may vary widely among individuals.



### 5.3. Awareness of Ethical Issues

The data reveal a high level of awareness regarding key ethical concerns:

- Data privacy awareness is extremely high
- Awareness of bias and misinformation is strong
- Understanding of the impact on critical thinking is evident
- Awareness of plagiarism risks is relatively high

This indicates that student teachers possess conceptual knowledge of ethical issues, likely developed through informal learning and academic exposure.

### 5.4. Usage Patterns of AI

AI tools are frequently used by student teachers for academic purposes such as:

- Assignment writing
- Lesson planning
- Content generation

The majority reported using AI tools either daily or weekly, indicating that AI has become an integral part of their academic activities.

Frequent usage increases the importance of ethical guidance, as the risk of misuse also increases.

### 5.5. Challenges in Ethical AI Use

Respondents identified several challenges:

- Data privacy concerns
- Fear of plagiarism
- Technical difficulties
- Lack of awareness in specific contexts
- Absence of clear guidelines

These challenges demonstrate that ethical issues are not merely theoretical but are experienced in practical situations.

### 5.6. Readiness for Ethical Implementation

A notable finding is the uncertainty among student teachers regarding their readiness to use AI ethically in teaching. Many respondents expressed neutral opinions, indicating lack of confidence.

This suggests that awareness alone is insufficient for developing ethical competence. Practical training and guidance are essential.

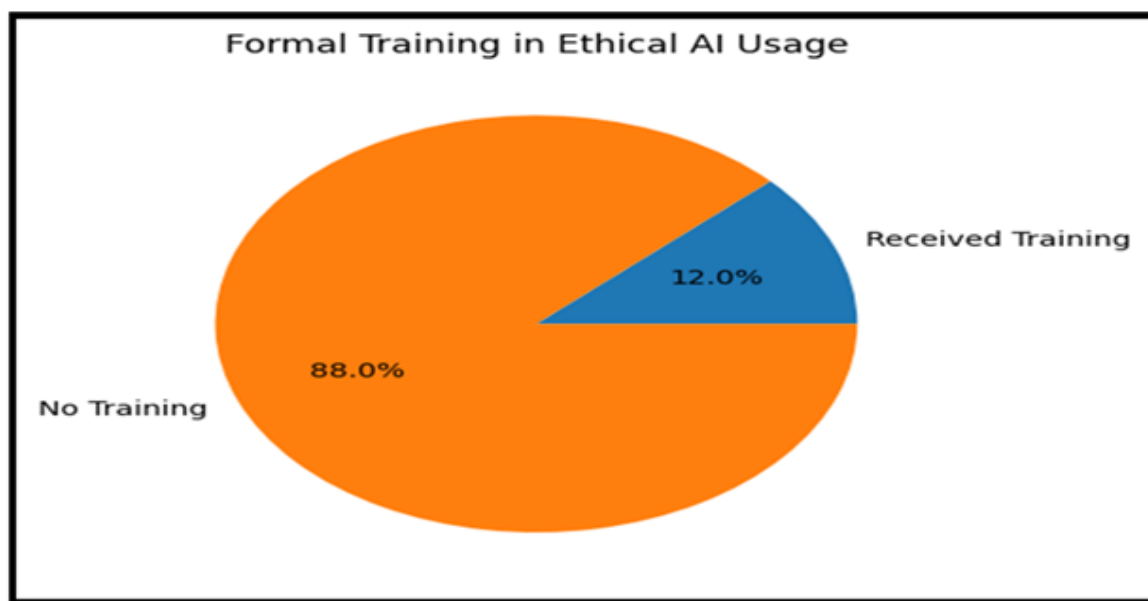
### 5.7. Perception towards Curriculum Integration

All respondents supported the inclusion of ethical AI training in the B.Ed. curriculum. They emphasized the need for:

- Workshops and seminars
- Practical training sessions

- Clear institutional policies

This unanimous agreement highlights the demand for structured educational interventions.



## 6. Statistical Interpretation

The percentage analysis indicates a strong trend:

- High awareness (above 90% in most ethical areas)
- Low formal training (around 10–15%)
- Moderate confidence in implementation

This contrast clearly demonstrates a gap between knowledge and practice.

The data suggest that while student teachers understand ethical principles, they lack the ability to apply them effectively in real-world situations. This gap can lead to inconsistent practices and potential ethical violations.

## 7. Discussion

The findings of the study align with existing research, which highlights the growing importance of ethical AI use in education. The high level of awareness among student teachers is encouraging, as it indicates a positive attitude towards responsible technology use.

However, the lack of formal training is a major concern. Without structured guidance, student teachers may rely on trial-and-error approaches, which can lead to unethical practices.

The study also highlights the role of teacher education institutions in addressing this gap. Ethical preparedness cannot be left to individual initiative; it must be systematically developed through curriculum and training.

The neutrality in responses regarding readiness suggests a lack of confidence, which can only be addressed through experiential learning and practical exposure.

## 8. Educational Implications

The study has several important implications:

### 8.1. Curriculum Reform

AI ethics should be integrated into teacher education programmes as a core component.

### 8.2. Experiential Learning

Hands-on training and real-life case studies should be included to develop practical skills.

## 8.3. Policy Development

Institutions should establish clear guidelines for ethical AI usage.

## 8.4. Teacher Educator Role

Teacher educators should model ethical practices in their teaching.

## 8.5. Continuous Training

Workshops and professional development programmes should be regularly conducted.

## 9. Conclusion

The study concludes that B.Ed. student teachers demonstrate high awareness of ethical issues related to AI but lack the necessary training and preparedness to apply this knowledge effectively. The gap between awareness and practice highlights the need for structured interventions in teacher education.

By integrating ethical AI training into the curriculum, providing practical learning opportunities, and establishing clear policies, teacher education programmes can ensure that future educators use AI responsibly and effectively.

## References

- [1] UNESCO. (2023). *Ethics of Artificial Intelligence*.
- [2] Government of India. (2020). *National Education Policy 2020*.
- [3] Holmes, W., et al. (2022). *Artificial Intelligence in Education*.
- [4] Luckin, R. (2018). *Machine Learning and Human Intelligence*.
- [5] Selwyn, N. (2019). *Should Robots Replace Teachers?*
- [6] Zawacki-Richter, O., et al. (2019). Systematic review of AI in education.
- [7] Williamson, B. (2020). *New digital education governance*.
- [8] Baker, R., & Inventado, P. (2014). Educational data mining.

- [9] Floridi, L. (2019). Establishing ethical frameworks for AI.
- [10] Holmes, W., Bialik, M., & Fadel, C. (2019). *AI in Education Promise and Implications*.

