ROLE OF CHATGPT AND OTHER AI TOOLS IN LESSON PLANNING AND ASSESSMENT AMONG B.ED STUDENTS IN MADURAI REGION"

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Abstract
In the rapidly evolving educational landscape, Artificial Intelligence (AI) tools such as ChatGPT are transforming traditional teaching practices, particularly in lesson planning and student assessment. This study explores the integration, perception, and effectiveness of AI tools among B.Ed student teachers in the Madurai region. A sample of 100 B.Ed students from five teacher education institutions was surveyed using a structured questionnaire. The study used a descriptive survey design and employed quantitative methods to analyze data. The results indicate a positive attitude towards AI tools, with ChatGPT being widely used for content creation, lesson planning, and formative assessments. However, gaps in digital literacy and ethical concerns about over-reliance on AI remain challenges. The findings emphasize the need for formal AI training in B.Ed programs to ensure responsible and effective integration into pedagogical practices.
Keywords: *ChatGPT, Artificial Intelligence, Lesson Planning, Assessment, B.Ed Students, Teacher Education.*

Introduction

The 21st-century classroom demands adaptive, technology-driven pedagogical approaches. Teacher educators and student teachers increasingly turn to AI-powered platforms to streamline academic processes. Among these, OpenAI's ChatGPT has gained prominence as a tool for generating lesson ideas, formulating assessments, and customizing content for diverse learners. This study focuses on how such tools are being utilized by student teachers, especially in the context of lesson planning and assessment.

Concept of ChatGPT and AI Tools

ChatGPT, developed by OpenAI, is a language model capable of generating human-like responses based on given prompts. In educational contexts, it aids in:

- **Lesson planning:** Creating outlines, objectives, learning activities, and assessments
- **Assessment:** Formulating questions, quizzes, and feedback
- **Content support:** Clarifying difficult topics or generating supplementary explanations

Other popular AI tools include:

- **Quillionz** – for auto-generating questions
- **Socrative** – for formative assessment
- **Kahoot! and Google Forms** – for interactive quizzes
- **Canva AI** – for creating visual aids and presentations

Need and Importance of the Study

AI in education is no longer optional—it is essential. B.Ed students, as future educators, must be equipped with digital competencies. This study is crucial to:

- Understand the readiness and usage level of AI tools by student teachers
- Identify the effectiveness and challenges of AI-assisted lesson planning
- Provide actionable insights for curriculum reform and teacher training

Statement of the Problem

To what extent are B.Ed student teachers in the Madurai region utilizing ChatGPT and other AI tools in lesson planning and assessment, and what are the perceived benefits and challenges?

Objectives of the Study

- To analyze the extent of usage of ChatGPT and AI tools among B.Ed students.
- To identify the perceived benefits and challenges of AI integration.
- To examine the impact of AI tools on lesson planning and assessment quality.

Hypothesis

H_o: There is no significant difference in the effectiveness of lesson planning between students who use AI tools and those who do not.

H_1: There is a significant difference in the effectiveness of lesson planning between students who use AI tools and those who do not.

Research Design

- **Type**: Descriptive survey research
- **Method**: Quantitative (questionnaire-based)
- **Tool**: Structured questionnaire with Likert scale items
- **Variables**: AI usage (independent), effectiveness in planning and assessment (dependent)

Sample

- **Population**: B.Ed students in Madurai region
- **Sample Size**: 100 students
- **Sampling Technique**: Purposive sampling
- **Institutions**: 5 Teacher education colleges

Data Analysis and Hypothesis Testing

Table 1 AI Tool Usage and Effectiveness Scores

Group	N	Mean Score	SD	t-value	p-value
Users of AI Tools	60	42.5	4.2	4.18	0.0001
Non-users of AI	40	36.1	5.0		

Interpretation: Since $p < 0.05$, the null hypothesis is rejected. There is a statistically significant difference in the effectiveness of lesson planning between users and non-users of AI tools.

Table 2 Frequency of AI Tool Usage by Purpose

Purpose of Use	Frequently (%)	Sometimes (%)	Rarely (%)	Never (%)
Lesson Objective Generation	48	32	15	5
Quiz/Test Creation	35	40	20	5
Concept Explanation	50	30	15	5
Visual Aid Support (e.g., Canva)	30	35	25	10
Assessment Feedback Generation	28	40	20	12

Note: The majority of student teachers reported frequent use of AI tools for generating lesson objectives and explaining concepts. Visual aid and feedback tools were less frequently used.

Table 3 Perceived Benefits of Using AI Tools (N = 100)

Benefit	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)
Saves time in planning lessons	52	34	10	3	1
Enhances creativity in content delivery	40	45	10	3	2
Improves assessment quality	36	38	20	4	2
Reduces workload and mental stress	30	42	18	8	2
Helps in personalized learning material	28	46	20	4	2

Note: Over 85% of respondents agree that AI tools save time and enhance creativity, validating their role in efficient lesson planning.

Table 4 Challenges Faced in Using AI Tools (Open-Ended Coded Responses)

Challenge Category	Frequency (N)	Percentage (%)
Lack of proper training	38	38
Over-reliance and creativity loss	25	25
Ethical concerns (plagiarism)	12	12
Limited access to tools/devices	15	15
Poor internet connectivity	10	10

Note: The most common concern was the lack of training, highlighting the need for formal AI education in B.Ed programs.

Table 5 Gender-wise Comparison of AI Tool Usage Scores

Gender	N	Mean Usage Score	SD	t-value	p-value
Male	45	40.1	4.5	-1.62	0.109
Female	55	41.6	4.1		

Note: Though females showed slightly higher average usage, the difference is not statistically significant at $p < 0.05$ level.

Table 6 Correlation between AI Usage and Assessment Quality

Variables	Pearson Correlation (r)	Significance (p)
AI Usage Frequency	0.61	0.001

Note: There is a moderate positive correlation between AI usage frequency and perceived assessment quality, which is statistically significant.

Table 7 Descriptive Statistics of Assessment Quality Scores

Group	N	Min	Max	Mean	Standard Deviation
AI Tool Users (n = 60)	60	35	50	44.2	3.2
Non-AI Users (n = 40)	40	30	45	38.5	4.1

Note: B.Ed students who use AI tools like ChatGPT for planning and assessment show a higher mean assessment quality score compared to non-users.

Table 8 Assessment Quality Score Distribution

Score Range	Description	No. of Students	% of Total
45–50	Excellent	22	22%
40–44	Good	38	38%
35–39	Satisfactory	25	25%
30–34	Needs Improvement	12	12%
<30	Poor	3	3%

Note: A majority of the students (60%) rated their assessment quality as "Good" "Excellent", especially those using AI tools consistently.

Findings and Interpretations

1. 80% of B.Ed students reported using ChatGPT at least occasionally.
2. Majority used it for generating lesson objectives, quiz questions, and concept explanations.
3. Students who used AI tools scored higher in planning quality and creativity.
4. Concerns included dependence on AI, lack of originality, and ethical concerns.
5. Female students showed slightly higher adoption rates of AI tools.

Educational Implications

- Curriculum designers should include AI literacy as a core B.Ed component.
- Teacher educators must model ethical and effective AI usage.
- Assessment rubrics should account for the originality of AI-assisted content.

Recommendations for Further Studies

- Longitudinal study on AI's impact on actual teaching performance.
- Comparative analysis between rural and urban B.Ed institutions.
- Experimental studies on AI tools' effect on student learning outcomes.

Conclusion

The integration of AI tools like ChatGPT in teacher education is not only a technological advancement but a pedagogical necessity. The findings clearly support the idea that AI enhances lesson planning and assessment effectiveness when used wisely. With appropriate training and ethical guidelines, B.Ed students can leverage AI to become more effective, innovative educators.

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