ATTITUDE OF B.ED. STUDENT TEACHERS TOWARDS USING AI TOOLS IN TEACHING MATHEMATICS

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Abstract

Artificial Intelligence (AI) is no longer confined to the realm of futuristic imagination; it is actively reshaping how knowledge is created, delivered, and received. Learning mathematics concepts are often struggle by the learners. AI gives a strong chance for visualization, personalized learning and adaptive feedback in mathematics education. This research explored the attitudes of B.Ed. student teachers towards the use of AI tools in teaching mathematics. The sample of 100 student teachers adopted from various College of Education in and around Chennai especially in Pedagogy of Mathematics by using purposive sampling techniques, to measured four dimensions of attitude towards the use of AI tools-awareness, perceived usefulness, confidence and willingness to adopt AI. The data were collected and analyzed using independent sample t-tests. Results revealed that there is a significant difference based on gender (male/female) and locality (urban/rural): male student teachers reflect their stronger attitudes than female student teachers, and urban student teachers scored higher than their rural student teachers. This research results emphasizes the need for equitable access to AI resources, inclusive training opportunities, and teacher preparation programs that empower all future educators to embrace technology with confidence.

Keywords: *AI Tool, Attitude, Artificial Intelligence, B.Ed. Student Teachers, Educational Technology, Mathematics Education.*

Introduction

In the modern era, technology has become a part of education. This used to restructure the way of learning and teaching. AI was standing out and one of the modern technologies used to improve the way of teaching. This technology used to track the progress of learners, suggest best what to teach, giving feedback, to create and learn the interested topics according to the user needs and so on. Often think Mathematics education is a complex one, but the using of AI makes the same more easily understandable by explain the concepts simpler, techniques of problem solving which also improve the idea that the Mathematic education is not that much challenging rather interesting.

But it not to be taken that only AI can make the subject more interesting, teachers also an integral part of the teaching the students in different types of approach plays a crucial role in whether these tools are meaningfully adopted in classrooms (Teo, 2019). The learners are of different categories some of them are gender, locality, age and etc., each of the factor gives different perspective in their learning phase. As per the study by (Kumar & Sharma, 2021), Male and urban teachers often have greater exposure to technology and report higher confidence in using digital tools, whereas female and rural teachers may face barriers such as limited access, fewer training opportunities, and lower self-efficacy. These differences shows that the importance of teaching is not only providing AI resources but also includes teacher preparation programs that build skills, self-confidence and fair opportunities for all future educators.

The upcoming Mathematics educators represented by the B.Ed. student teachers should understand their approaches that how much essential is AI in teaching. They should open to learn and know how to integrate the AI methods in to the classroom teaching to improve the learning experience of students. There is very low number of studies in the perspectives of Indian B.Ed. trainees on teaching methods, to address this issue, this study conducted by exploring the attitudes of student teachers, examining gender and locality differences, and providing insights that can inform teacher education programs to prepare future educators for a technology-enhanced classroom.

Review of Related Literature

Nyaaba, et al. (2024), researched pre-service teachers in Ghana to understand their attitude and use towards generative AI tools like ChatGpt, which shows the student teachers have a good attitude towards AI tools in their teaching.

Olarewaju, et al. (2023), researchers focused the pre-service mathematics teachers in Nigeria to find they aware the AI tools and find their often usage of AI, result found that most of them are aware about the tools in mathematics.

From these research papers, shows that many student teachers having good attitude towards AI tools. However, very few research only found in Indian research especially in Tamil Nadu. Most of the research focus the general AI in education not that much specific in mathematics. This shows there is a lack of studies found in India. So, this study focuses to fill the gap by finding out how the boys and girls student teachers having their attitude towards AI tool in mathematics. Thereby the title framed as "**Attitude of Student Teachers towards Using AI Tools in Teaching Mathematics"**

Need and Significance of the Study

The attitude of student teachers on using AI while teaching mathematics also develops the deep cognition of mathematics. Mainly this study focuses on how student teachers react

while using new educational technologies in teaching mathematics in the classroom. In this era its need to know about the future teacher's thoughts about AI tools in teaching mathematics and the role of AI, that is the most importance of AI and its need for teaching. This reflects how far it helps students' teachers understanding level while using AI, how AI saves time, energy, whether AI give innovative ideas to teach them, how it makes class active and maintain attention in the class. This study will help the student teachers to create different programs to give aware about AI. It can also help school leaders and policymakers make good plans and provide support for using technology in math teaching. By finding out what helps or stops student teachers from using these tools, the study shows where extra training might be needed. Overall, this research adds useful knowledge about using technology in education and make sure all students have a fair chance to learn with new methods in mathematics.

Objectives of the Study

- To find out the significant difference in the attitudes of male and female student teachers toward using AI tools in mathematics teaching.
- To find out the significant difference in the attitudes of urban and rural student teachers toward using AI tools in mathematics teaching.

Methodology

In this research, researcher adopted the descriptive survey to investigate the attitude of B.Ed. student teachers towards the use of AI tools in teaching Mathematics. Colleges of Education are the population and the sample was selected by using purposive sampling techniques. 100 student teachers are selected from various Colleges of Education in and around Chennai. Created a self-structured questionnaire that included Likert-scale items to measure the 4 dimensions of attitude: awareness, perceived usefulness, confidence, and willingness to integrate AI in mathematics instruction for data collection. This questionnaire was properly structured by using reliability 0.86 and validity (subject experts).

Results and its Interpretation

Table 1: Mean Difference of Male and Female Student Teachers' Attitude Toward using AI Tools in Mathematics Teaching

Dimensions of Attitude towards using AI tools	Sub Category	Mean	t-value	p-value	Result
Awareness	**Male**	3.87	-2.15	0.03*	S
	Female	3.55			
Usefulness	**Male**	4.31	-1.98	0.04*	S
	Female	4.10			

Confidence	**Male**	3.15	-2.02	0.046*	S
	Female	2.95			
Willingness	**Male**	3.98	-2.25	0.026*	S
	Female	3.78			

Note: * Significant at 5% level

S-Significant

From above table, p-value is less than 0.05, it is rejected at the 5% level. Therefore, there is a significant difference between male and female student teachers with respect to dimensions of Attitude toward using AI tools in mathematics teaching. Male student teachers highlighted strong awareness of AI tools, perceived usefulness, confidence, and willingness to integrate AI in mathematics teaching compared to female student teachers. This shows that gender-based differences, possibly linked to exposure and self-efficacy, influence readiness to adopt AI in the classroom.

Table 2: Mean Difference of Urban and Rural Student Teachers' Attitude Toward using AI Tools in Mathematics Teaching

Dimensions of Attitude towards using AI tools	Sub Category	Mean	t-value	p-value	Result
Awareness	**Rural**	3.40	2.48	0.015*	S
	Urban	3.85			
Usefulness	**Rural**	4.05	2.12	0.037*	S
	Urban	4.30			
Confidence	**Rural**	2.75	2.38	0.019*	S
	Urban	3.15			
Willingness	**Rural**	3.70	2.28	0.024*	S
	Urban	3.95			

Note: * Significant at 5% level

S-Significant

Since the p-value is less than 0.05, it is rejected at the 5% level. Therefore, there is a significant difference between urban and rural student teachers with respect to dimensions of Attitude toward using AI tools in mathematics teaching. Urban student teachers revealed strong awareness, perceived usefulness, confidence, and willingness toward AI adoption than rural student teachers. This finding pointed that the effect of environmental aspects that are access to technology, infrastructure, and training opportunities on student teachers' attitudes.

Conclusion

This research evident that the significant influenced by gender and locality among B.Ed. Student teachers' attitude towards use of AI tool in mathematics are in and around Chennai. Male and urban trainees generally exhibit stronger awareness, confidence, and willingness to adopt AI, while female and rural trainees may require additional support to develop these skills. These results that underscore the significant of fair and inclusive teacher education programs that organize all upcoming educators to use AI tools effectively, enabling personalized and captivating mathematics instruction. By promoting equity and nurturing positive attitudes toward technology, teacher education programs can inspire student teachers to utilize AI not just as a tool, but as a means to strengthen learning, build confidence, and transform the mathematics classroom into a more engaging surrounding, accessible and interactive environment. To prepare effective educators in a line with both confidence and competence in AI will eventually contribute to a more progressive education system where technology functions as a facilitator, not as a hindrance.

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