International Journal of Emerging Knowledge Studies
Publisher's Home Page: https://www.ijeks.com/
Fully Open Access Research Paper

Perception on Usage of Artificial Intelligence Tools among B.Ed. Students

Ambika G[1*] Dr. V. Priya[2]

[1]Ph. D. Research Scholar,Sri Sarada College of Education (Autonomous), Salem, India.
[2]Associate Professor of Physical Science, Sri Sarada College of Education (Autonomous), Salem, India.
DOI: https://doi.org/10.70333/ijeks-04-02-s-015
*Corresponding Author: gambika83@gmail.com

Article Info: - Received : 08 February 2025 **Accepted** : 17 March 2025 **Published** : 30 March 2025

This study explores the perceptions of B.Ed. students regarding the use of Artificial Intelligence (AI) tools in education. It investigates their understanding, acceptance, and perceived benefits and challenges of integrating AI in teaching and learning processes. Normative survey method was adopted for the study with 97 B.Ed. I and II year students from Sri Sarada College of Education (Autonomous), Salem, Tamil Nadu. The results revealed that the student teachers' perception regarding usage of artificial intelligence tools is less than that of students' perception is because of the age factor and lack of awareness and responsibility, as for as the demographic variables are concerned there are no significant differences with regard to medium of instruction, stream of study, educational qualification etc. in both groups. This study will contribute to understandthe potential role of AI in shaping the future of education from the perspective of future educators.

Keywords: *Artificial Intelligence, Perception, Teacher Education, Student Learning.*

1. Introduction

NEP 2020 is fabricated on the foundation to ensure quality education that is accessible, affordable, equitable and accountable. In order to facilitate India's transformation to become a "Global Knowledge Superpower", NEP recommendations propose to revamp the broader regulatory framework. The use of emerging technologies such as artificial intelligence, handheld computing devices, machine learning, smart boards, flexible computer testing for student development, and other forms of educational software and hardware will not only change what students learn in the classroom but also how they learn. As a result, these areas require comprehensive research both on the technological and educational fronts. The use of technology and integration in education shall be encouraged and adopted, provided that these interventions are

thoroughly and openly assessed in pertinent contexts before being scaled up.

2. Artificial Intelligence

When compared to the natural intelligence exhibited by humans and animals, Artificial Intelligence (AI) refers to intelligence that is displayed by machines. According to top AI textbooks, the study of "intelligent agents"—systems that understand their surroundings and act in ways that increase their chances of success—is what the discipline is all about. The phrase "artificial intelligence" is frequently used informally to refer to devices (or computers) that simulate "cognitive" processes like "learning".

3. Artificial Intelligence Tools

Artificial intelligence (AI) tools are software applications that use artificial intelligence to solve specific problems. These problems can range from generating text, to analyzing large datasets, or predicting the next big earthquake. AI tools have already transformed the way we use and interact with technology, and this transformation is only going to accelerate in the future. Here are some of the different categories of AI tools:

AI productivity tools: These tools can help you automate tasks, save time, and improve your overall productivity. For example, AI-powered email assistants can help you schedule meetings, respond to emails, and manage your to-do list.

AI creative tools: These tools can help you generate creative content, such as text, images, and music. For example, AI-powered writing assistants can help you brainstorm ideas, write different kinds of creative content, and improve your grammar.

AI research tools: The researchers developed new AI algorithms and applications by using these tools. For example, AI-powered machine learning platforms can help researchers train and test new machine learning models.

AI tools for everyday use: People use a growing number of AI tools everyday for a variety of purposes. For example, AI-powered virtual assistants can help you with tasks such as setting alarms, playing music, and controlling your smart home devices.

4. Artificial Intelligence Tools for B.Ed. Students

B.Ed. students can leverage a variety of AI tools to enhance their learning experience, improve efficiency, and prepare for a future where technology is increasingly integrated into education. Here are some of the most beneficial categories of AI tools for B.Ed. students:

- Personalized Learning Tools

Adaptive learning platforms: These platforms use AI to tailor learning materials to a student's individual strengths and weaknesses. They can adjust the difficulty level of content, suggest additional resources, and track progress over time.

Recommendation engines: AI can recommend learning resources, such as articles, videos, and practice problems, based on a student's interests and learning goals. This can be a helpful way to explore new topics and find relevant materials.

- Assessment and Feedback Tools

Automated grading systems: AI can automate the grading of some types of assessments, such as multiple-choice quizzes and short answer questions. This can free up instructors' time to provide more personalized feedback on essays and other open-ended assignments.

AI writing assistants: These tools can provide feedback on grammar, style, and clarity. They can also help students identify plagiarism and ensure that their writing is properly cited. Examples include Grammarly and Quillbot.

- Engagement and Support Tools

Interactive learning simulations: AI can be used to create interactive simulations that allow students to practice skills in a safe environment. For example, a student could use a simulation to practice teaching a lesson or managing a classroom.

Game-based learning platforms: AI can be used to create game-based learning platforms that motivate students and make learning more fun. These platforms can use adaptive learning techniques to personalize the learning experience and ensure that students are challenged at the appropriate level.

- Accessibility Tools

Text-to-speech tools: These tools can convert text to audio, which can be helpful for

students with visual impairments or learning disabilities.

Translation tools: AI-powered translation tools can help students translate text from one language to another. This can be helpful for students who are learning a new language or who need to access educational materials that are not available in their native language. Examples include Google Translate and DeepL.

- Administrative Tools

Chatbots: AI-powered chatbots can answer student questions about administrative tasks, such as course registration and financial aid. This can help reduce the workload on instructors and staff.

5. Perception on Usage of AI Tools

There's a growing interest in how prospective teachers view AI-powered tools in the classroom. Studies suggest B.Ed. students generally have a positive perception of AI in education, finding it beneficial in a few key ways:

Enhanced Learning: AI tutors, adaptive learning platforms, and other tools can personalize the learning experience for students, catering to their individual needs and boosting comprehension. B.Ed. students might see this as a valuable asset in their future classrooms.

Improved Efficiency: AI can automate tasks like grading essays or providing feedback on practice problems, freeing up B.Ed. students to focus on more individualized instruction and student interaction.

Accessibility and Engagement: AI tools can be available 24/7, allowing students to learn at their own pace. Additionally, some AI tools use gamification or interactive elements to make learning more engaging.

6. ABalanced Perspective:

Concerns about Over-reliance: B.Ed. students might be aware that AI shouldn't replace human interaction in the classroom. The ability to build relationships with students, provide social-emotional support, and foster critical thinking skills remains vital.Technical Challenges: Difficulty using certain AI tools or a lack of variety in the available options could hinder B.Ed. students' perception.User acceptance is key to successful uptake of technological innovations (Davis, 1989). John Biggs emphasized the importance of student perception in his 3P (Presage-Process-Product) model of teaching and learning (Biggs, 2011).According to Biggs, students' perceptions of their learning environment, their abilities, and the teaching strategies used have a significant impact on their approach to learning (Biggs, 1999), which in turn influences their learning outcomes.

Students who perceive the learning environment (such as curriculum content, teaching methods, assessment methods, learning resources, learning context, and student support services) positively and feel confident about their abilities are more likely to adopt a deep approach to learning, which involves seeking understanding and making connectionsbetweenconcepts. On the other hand, s tudents who have a negative perception of their le arning environment or doubt their abilities may adopt a surface approach to learning, wheretheyfocuson memorizing facts and meeting minimum requirements(Biggs, 2011).
In a learning environment, the way students perceive a technological innovation such as GenAI, their views, concerns, and experiences of the technology can have an impact on their willingness to utilize the tool and consequently the extent to which the tool is integrated into the learning process. The research considers the proficiency levels of both students and teachers in using AI tools, adding an important dimension to the investigation. The dimension, students' proficiency using AI tools, assesses students' ability to effectively utilize AI tools for learning and academic tasks. Another dimension, Teacher Proficiency Using AI Tools, evaluates teachers' capacity to integrate AI tools into their teaching practices.

7. Review of Related Literature

Chan and Hu (2023) explored university students' perceptions of generative AI (GenAI) technologies, such as ChatGPT, in higher education, focusing on familiarity, their willingness to engage, potential benefits and challenges, and effective integration.

Chang Kwan Lo (2023) reviewed to enrich our understanding of ChatGPT's capabilities across subject domains, how it can be used in education, and potential issues raised by researchers during the first three months of its release. The findings

suggested that ChatGPT's performance varied across subject domains, although ChatGPT had the potential to serve as an assistant for instructors and a virtual tutor for students, there were challenges associated with its use.

Larsson and Eriksson (2023) conducted an ethnographic study complementary with a survey and interviews with students and educational consult in pedagogy at a university on the student's perspective and their usage of ChatGPT for their self-studies or learning within the context of education. The results suggested that students were interested in using ChatGPT for self-studies and that it can be a useful tool and generate a good user experience compared to traditional methods. The knowledge gained from our studies resulted in a prototype that was made to support students' needs and bridge the gap between students and the university.

8. Need and Significance of the Study

AI in education enables teachers to find out students' knowledge gaps and give personalised feedback to enhance learning outcomes. With the aid of AI chatbots, teachers may help students stay motivated and engaged outside of the classroom by offering them constant support and guidance. Teachers can use AI to recognise late bloomers early on and give them the specialised support they need to succeed. The potential to transform education and replace traditional classroom models with more dynamic and interactive ones is one of the most intriguing effects of AI. For instance, with AI-powered virtual and augmented reality tools, students can now investigate challenging topics in novel and immersive ways, which bring learning to life and increase student engagement.

It's crucial to comprehend how B.Ed. students view artificial intelligence (AI) in the classroom for a number of reasons. By taking into account the viewpoints of students, teacher training programmes can better prepare aspiring teachers to successfully use AI tools in the classroom. This guarantees that B.Ed. students are equipped to take advantage of AI's prospective advantages. Teachers can strategically use AI tools to increase student engagement and learning results by knowing the issues and preferences of their students. As AI shapes the future education system, this study can be used to inform the creation and application of AI tools that are most appropriate for the requirements of future educators.

The study may shed light on how AI resources can improve the educational experiences of B.Ed. students. This can help with the creation of AI-powered learning materials that adjust to different learning preferences and personalise instruction. Students' opinions on the possible negative effects of AI, such as over-reliance or privacy concerns, might be investigated through the research. This may result in the creation of instructional strategies that support the ethical and critical application of AI tools.

Ultimately, learning more about how B.Ed. students view AI tools will help educators, policymakers, and developers of educational technology make informed decisions. It has the potential to influence how AI will effectively assist education in the future.

9. Objectives of the Study

- To assess the student's proficiency and Teacher's proficiency in using AI tools among B.Ed. students
- To investigate the perception on usage of AI tools among B.Ed. students

10. Hypotheses of the Study

- There is no significant difference in the Students' proficiency using AI tools among B.Ed. students based on the select subsamples viz. Locality, Stream of study, Medium of Instruction, Educational Qualification
- There is no significant difference in the Teacher's proficiency in AI tools among B.Ed. students based on the select subsamples viz. Locality, Stream of study, Medium of Instruction, Educational Qualification
- There is no significant difference in the perception on usage of AI tools among B.Ed. students.

11. Methodology

For the present study, Normative survey method was adopted with the sample size of 97 B.Ed. I and II year students from Sri Sarada College of Education (Autonomous), Salem were selected.Tool Used:The tool used for the present

study was developed by the researcher and was standardised. The tool consists of 43 items in which the usage of AI tools consists of 18 items, the usage of Chatbots consists of 7 items, Students' proficiency using AI tools consists of 6 items, Teacher's proficiency using AI tools consists of 5 items and advanced student skills in AI consists of 7 items, with 5 point rating scale (1, 2, 3, 4, 5). The maximum possible score was 215 and the minimum score was 43.

Analysis of Data means studying the organized material from as many angles as possible, in order to determine the facts. It involves breaking down the complex factors into simple parts and putting the parts together in a newly arranged way for the purpose of interpretation. Thus, analysis, interpretation of data and formulation of conclusion help to get a meaningful picture out of the raw information gathered.

12. Analysis and Interpretation

Table: 1

Dimension	Demographic variable	Subsample	Mean	S. D.	't' Value	Level of Significance
Students' proficiency using AI tools	Locality	Rural	25.57	4.54	1.170	N. S.
		Urban	24.48	4.37		
	Stream of study	Arts	25.00	4.27	0.171	N. S.
		Science	24.84	4.57		
	Medium of Instruction	Tamil	25.51	4.23	1.122	N. S.
		English	24.48	4.57		
	Educational Qualification	UG	24.59	3.71	0.651	N. S.
		PG	25.18	5.03		

From the above table, the calculated 't' values are less than the table value (1.98) at 0.05 level of significance in all the select subsamples. Hence, the null hypothesis is accepted, there is no significant difference in Student's proficiency using AI tools among B.Ed. students with respect to Locality, Stream of study, Medium of instruction, Educational Qualification. It is inferred that B.Ed. trainees who are from Rural and Urban localities, Arts and Science stream, English and Tamil medium and students having UG and PG qualification are identical in the dimension of Student's proficiency using AI tools.

Figure: 1


Locality
Mean
S. D.
30
20
10
0
Rural
Urban
Stream of Study
Mean
S. D.
25
20
15
10
5
0
Arts
Science
Medium of Instruction
Mean
S. D.
30
20
10
0
Tamil
English

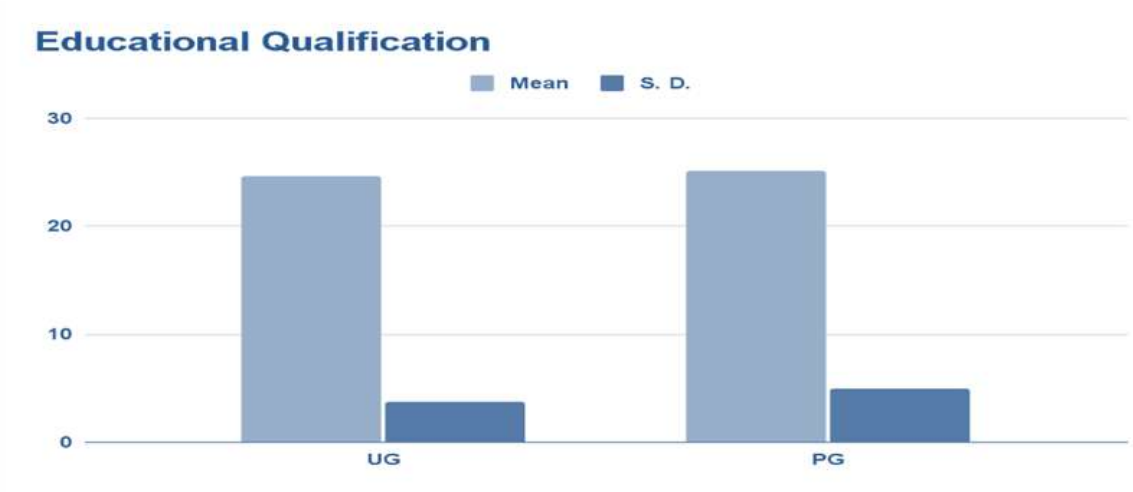

Table: 2

Dimension	Demographic variable	Sub sample	Mean	S. D.	't' Value	Level of Significance
Teacher's proficiency in AI tools	Locality	Rural	21.27	3.75	1.033	N. S.
		Urban	20.52	3.32		
	Stream of Study	Arts	20.69	3.49	0.250	N. S.
		Science	20.87	3.52		
	Medium of Instruction	Tamil	21.13	3.25	0.748	N. S.
		English	20.59	3.66		
	Educational Qualification	UG	20.52	3.20	0.755	N. S.
		PG	**21.06**	**3.75**		

From the above table, the calculated 't' valuesare lesser than the table value (1.98) at 0.05 level of significance in all the select subsamples. Hence, the positive hypothesis is accepted, there is no significant difference in Teacher's proficiency in AI tools among B.Ed. students with respect to Locality, Stream of study, Medium of instruction, Educational Qualification. It is inferred that B.Ed. trainees who are from Rural and Urban localities, Arts and Science stream, English and Tamil medium and students having UG and PG qualification are identical in the dimension of Teacher's proficiency in AI tools.

Figure -2


Locality
Mean
S. D.
25
20
15
10
5
0
Rural
Urban
Stream of Study
Mean
S. D.
25
20
15
10
5
0
Arts
Science
Medium of Instruction
Mean
S. D.
25
20
15
10
5
0
Tamil
English

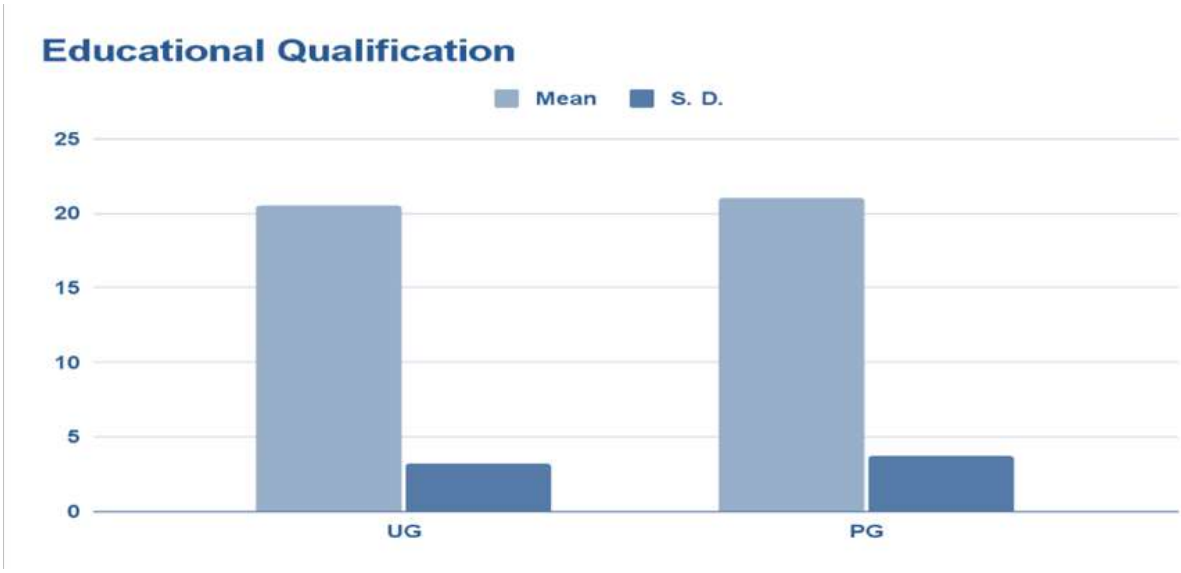

Table - 3

Variable	Demographic Variable	Sub sample	N	Mean	S. D.	't' Value
Perception on Usage of AI tools	Locality	**Rural**	37	182.22	31.95	0.773
		Urban	60	177.50	27.36	
	Stream of Study	**Arts**	35	180.49	29.31	0.300
		Science	62	178.63	29.23	
	Medium of Instruction	**Tamil**	39	182.56	28.26	0.905
		English	58	177.10	29.66	
	Educational Qualification	**UG**	46	177.20	25.30	0.674
		PG	51	181.20	32.32	

From the above table, the calculated 't' values are lesser than the table value (1.98) at 0.05 level of significance in all the select subsamples. Hence, the hypothesis is accepted, there is no significant difference in the perception on usage AI tools among B.Ed. students with respect to Locality, Stream of study, Medium of instruction, Educational Qualification. It is inferred that B.Ed. trainees who are from Rural and Urban localities, Arts and Science stream, English and Tamil medium and students having UG and PG qualification are identical in the Perception on Usage of AI tools.

13. Findings of the Study

- There is no significant difference in the Students' proficiency using AI tools among B.Ed. students based on the select subsamples viz. Locality, Stream of study, Medium of Instruction, Educational Qualification
- There is no significant difference in the Teacher's proficiency in AI tools among B.Ed. students based on the select subsamples viz. Locality, Stream of study, Medium of Instruction, Educational Qualification

- There is a negative perception on usage of AI tools among B.Ed. students.

If there is no significant difference between two sets of variables in the perception on usage of AI tools, it means that there is not enough evidence to conclude that the two sets are truly different. This could be due to a variety of factors such as sample size, measurement error, or random chance. Essentially, it suggests that the observed differences between the two sets are not large enough to be considered meaningful or statistically significant. Understanding this concept is crucial for accurately interpreting research findings and making informed decisions based on data.

14. Conclusion

There are Significant differences between teachers and students. Teachers' perception regarding usage of artificial intelligence tool is lesser than that of students' is because of the age factor and lack of awareness and responsibility, as for us the demographic variables are concerned there are no significant differences with regard to medium of instruction, steam of study, educational qualification etc. in both groups. It may be due to the fact that after the proliferation of mobiles, mobile internet and apps the digital divide has disappeared. Hence, Bachelor of Education (B.Ed.) students exhibit varied perceptions regarding the usage of artificial intelligence (AI) in educational contexts. Their awareness and understanding of AI concepts may range from rudimentary familiarity to comprehensive knowledge, shaped by their exposure to related topics during their academic journey. While some students recognize the potential benefits of AI, such as personalized learning experiences and streamlined administrative tasks, others harbor concerns about its ethical implications and potential challenges, including algorithmic bias and the digital divide. Nonetheless, many B.Ed students view AI integration as an opportunity to innovate pedagogically, seeking to leverage AI technologies to enhance teaching practices, cater to diverse learner needs, and foster student engagement. They acknowledge the importance of acquiring digital literacy skills and are eager to engage in professional development opportunities to effectively incorporate AI tools into their future teaching endeavors. Overall, the perception of AI usage among B.Ed students reflects a complex interplay of understanding, aspirations, and apprehensions, highlighting the need for ongoing dialogue and critical reflection within the education community.

15. Recommendations

- As the Usage of AI tools was found effective in the teaching-Learning process at B.Ed. level, Teacher trainees can be trained on using AI tools in preparation of e-contents, lesson plans, assessments, discussions.
- As teacher educators are content developers, they can be trained to develop contents for educating B.Ed. trainees.
- Educational institutions should have good infrastructure with internet facilities for successful usage of AI tools.
- Educational Institutions should have technological facilities such as PC or laptop, Wi-Fi connection to use AI tools successfully.
- The design of the ordinary classroom could be altered. All participants need their own space to create, think, focus, and find solutions and visualize the innovative tools.

References

Aroonmanakun, W. (2023). "AI and the Future of Higher Education". Journal of New Horizon in Higher Education, vol. 1, no. 1, June 2023, pp. 19-37, https://so09.tci-thaijo.org/index.php/NHHE/article/view/1812.

Barattucci, M. (2017). Approach to Study as an Indicator of the Quality of Teaching and of Learning Environment: the contribution of John Biggs. Journal of E-Learning and Knowledge Society, 13, 77-88. 10.20368/1971-8829/1311.

Chan, C.K.Y., & Hu, W. (2023) Students' voices on generative AI: perceptions, benefits, and challenges in higher education. Int J EducTechnol High Educ 20, 43. https://doi.org/10.1186/s41239-023-00411-8

Hong, Wilson. (2023). The impact of ChatGPT on foreign language teaching and learning: Opportunities in education and research. 5.

Holmes, W., Bialik, M., & Fadel, C. (2023). Artificial intelligence in education. UNESCO. Retrieved from https://www.unesco.org/en/publications.

Larsson, N., & Eriksson, H. (2023). Chatting Up the Grade: An Exploration on the Impact of ChatGPT on Self-Study Experience in Higher Education (Dissertation, Umeå University).

Lo, C.K. (2023). What Is the Impact of ChatGPT on Education? A Rapid Review of the Literature. Educ. Sci., 13, 410. https://doi.org/10.3390/educsci13040410

Nurtayeva, Togzhan& Salim, Mohammed & Basheer, Taha & Khalilov, Savriddin. (2023). The influence of ChatGPT and AI Tools on the Academic Performance. 22. 247-258. 10.37896/YMER22.06/26.

Sullivan, Miriam & Kelly, Andrew & McLaughlan, Paul. (2023). ChatGPT in higher education: Considerations for academic integrity and student learning. 6. 10.37074/jalt.2023.6.1.17.

Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education – where are the educators? International Journal of Educational Technology in Higher Education, 16(1), 39.

Cite this article as: Ambika G. and Dr. V. Priya., (2025). Perception on Usage of Artificial Intelligence Tools among B.Ed. Students. International Journal of Emerging Knowledge Studies. 4(2), pp. 78-88. https://doi.org/10.70333/ijeks-04-02-s-015