International Journal for Multidisciplinary Research (IJFMR)
E-ISSN: 2582-2160 ● Website: www.ijfmr.com ● Email: editor@ijfmr.com

Teaching Habits of Prospective Teachers of Patna in an AI Driven World

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Abstract

"AI in education can only grow at the speed of trust." Dr. Dale Allen

Artificial Intelligence (AI) in the education is becoming gradually very common. Today, everything happens at a click or touch of a screen. We are living in the 21st century and heading towards 22nd century where the learners in classrooms are Generation Z (Gen Z) and Generation Alpha. They are pro-active, techno savvy, innovative and robotic. The rapid technological development with AI evolving as a transformative force in various sectors, including education. Therefore, keeping these in mind in the classroom, it has become a tough job for teachers. Using technology in the classrooms like gamification, mobile, tablets, iPads, learning increases student engagement and aids in retention of the taught concepts. AI technologies such as personalized learning platforms, automated assessment systems, and intelligent tutoring programs are revolutionizing classroom dynamics and redefining teaching methods and strategies. For prospective teachers, understanding and integrating AI into their teaching–learning process is essential for enhancing student engagement, differentiating instruction, and fostering digital literacy. This paper explores how AI is changing teacher education, from chalk and talk, chart and model to real audio visual aids which brings new opportunities, challenges, and responsibilities. These aspects demand for the importance of prospective teachers to use AI effectively and positively in the classroom.

Index Terms: Teaching Habits, Prospective Teachers, Artificial Intelligence

INTRODUCTION

"If we teach today's students, as we taught yesterday, we rob our children of tomorrow"– John Dewey

The National Education Policy (NEP) 2020' throws light on the use of technology as a tool to support and transform education, rather than replacing traditional methods. "Appropriate integration of technology into all levels of education to improve classroom processes, support teacher professional development, enhance educational access for disadvantaged groups, and streamline educational planning, administration, and management." AI is significantly transforming the landscape of educational technology. It refers to the application of technology that enables machines and devices to think, process, and interpret information in ways similar to human intelligence. This progress is making important contributions across various sectors, such as healthcare, finance, industry, transportation, agriculture, business, marketing, entertainment, and education. The application of AI has brought about a paradigm shift in the field of education, introducing a wide array of innovative and contemporary teaching practices. AI fosters tutorial systems, dialogue-based systems, learning analytics and educational data mining are widely used. AI systems are designed for better output in education. It help students to reach their learning goals, instant feedback, and make learning more interactive and collaborative. AI assess the learning

preferences, strengths, and weaknesses of students. In our classrooms, there are teachers explicitly differing in terms of their teaching habits. Some burn mid night lamps while others prefer to prepare their classes in the morning. Some benefit from reading texts where as some prefer watching videos or listening to different online lectures. AI enable these different groups of teachers to progress teaching-learning at their own pace. It encourages metacognitive and decision making skills. In this article the researcher main focus is not on how AI is contributing in the intellectual development of prospective teachers but to what extent they are responsive, and successful in using AI positively.

1. Teaching Habits of Prospective Teachers

The quality of education depends a lot on the teaching habits developed during teacher their training. Prospective teachers are also known as pre-service teachers. They go through professional training to acquire pedagogical knowledge, understand their subjects well, and classroom management skills. They start building habits that shape how they will teach in the future.. These habits include planning lessons, using instructional strategies, managing time and behavior, and reflecting on practice.

2. AI's Role in Our Daily Life

i. **Personal Assistants:** AI powered assistances provide 24/7 the round-the-clock support by using Natural Language Processing (NLP) to manage daily tasks and schedules. AI tools can answer questions, play music, and control classroom devices. They perform several key roles such as recognition voice commands for e.g., "Set an alarm for 1 PM." AI assistants also retrieve useful information quickly, such as grading, attendance, lesson plans, and provides immediate feedback.

ii. **Smart Home Devices:** AI-driven devices automate and control various aspects of the home environment, making everyday life more convenient and efficient. Smart speakers like Amazon Echo use AI to control and perform lights and fans, play music, and provide weather updates through voice commands. AI plays a vital role by making them more intelligent, responsive and easy to user. It enables them to learn user habits and preferences, enabling personalized automation. Additionally, AI powers advanced security systems that can detect unusual activity and send real –time alerts, contributing to a safer and smarter home.

3. **Health and Fitness:** AI applications are used to monitor and improve health and wellness. AI is changing the health and fitness by providing personalized support, helping with diagnosis, and improving overall well-being. In healthcare, AI helps doctors examine medical images, predict diseases, and suggest suitable treatments. For example, IBM Watson can assist in diagnosing illnesses by analyzing patient records and medical information. In fitness, AI-powered apps like Fitbit and MyFitnessPal track physical activity, monitor heart rate, and provide customized workout and diet plans based on individual goals. Virtual fitness coaches also use AI to give real-time feedback and adjust exercises. Overall, AI makes health and fitness more effective, efficient, and personalized.

4. **Transportation:** AI is revolutionizing transportation by making travel safer, smarter, and more efficient. In self-driving vehicles, where AI uses data from cameras, sensors, and GPS to detect obstacles, follow traffic rules, and make real-time driving decisions. Similar to how AI-driven educational platforms adjust lessons based on student performance, improving efficiency and learning outcomes. Ride-sharing apps like Uber, Ola, and Rapido use AI for matching drivers and optimizing routes. In logistics, AI tracks vehicles and enhances delivery efficiency. Likewise, in classroom, AI can match students with personalized learning content and optimize their learning paths. Just as AI in

logistics tracks vehicles for efficient delivery, AI in teaching and learning tracks student progress to ensure they receive timely support, making learning more efficient and personalized

5. **Shopping and E-commerce:** It recommends products based on past purchases, like those on Amazon, Flipkart, Meesho, Ajio, and Myntra. AI chatbots assist customers with questions, and visual search tools help users find products using images. Similar to how AI tools help students with queries in virtual classrooms, making both shopping and learning more collaborating, personalized, and resourceful.

vi. **Entertainment:** AI is enhancing both entertainment and education by personalizing experiences and improving engagement. AI is used in streaming platforms like Netflix and YouTube to recommend educational movies and videos based on different subject topics. AI-driven platforms like Khan Academy and Drishti adjust lessons to match each learner's speed. In virtual classrooms, AI tracks student progress and suggests resources that suit their needs, making learning more engaging and effective for everyone.

3. SIGNIFICANCE OF THE STUDY

Today, a lot of research is being conducted to explore the vast potential of Artificial Intelligence (AI) in creating adaptive classroom environments and personalized learning based on students' learning styles and abilities. However, not much focus has been given to how AI affects the teaching habits of prospective teachers. Using AI in teacher training programs can help to improve teaching learning skills and support educators in better ways. It is also important to look at the challenges that come with using AI in education. The role of AI is shaping teaching habits of prospective teachers in Patna. The researcher aims to develop some meaningful insights in the overall spectrum of educational technology.

4. STATEMENT OF THE PROBLEM

This study entitled 'Teaching Habits of Prospective Teachers of Patna in an AI Driven World' deals with evaluating the potential impact that the usage of AI models can have on the individual and group teaching habits of prospective teachers in Patna. The world is embracing concepts like 'heutagogy and autonomous learning environment'. Therefore the prospective teachers must be acquainted with the new age devices so that they are leverage in their academic endeavors.

5. OPERATIONAL DEFINITIONS

- **Teaching Habits:** the consistent practices, behaviours, approaches, methods, strategies and techniques adopted by educators in their instructional routine.
- **Prospective Teachers:** refers to individual who aspire to be in the teaching profession and are pursuing B.Ed.
- **Artificial Intelligence:** AI is a simulated form of human intelligence processes, implemented through algorithms and software that enable technological devices to process information and perform operation as human beings.

6. OBJECTIVES OF THE STUDY

- To find the significant difference between Teachings Habits of prospective teachers of Patna on the basis of gender.
- To find the significant difference between Teachings Habits of prospective teachers of Patna on the basis of educational qualification.

- To find the significant difference between Teachings Habits of prospective teachers of Patna on the basis of medium of instruction.
- To find the significant difference between Teachings Habits of prospective teachers of Patna on the basis of family type.

7. TOOL USED

Constructed and validated tool on Teaching Habits of Prospective Teachers in AI Driven World

8. METHOD USED

The investigator adapted survey method for the present study.

9. POPULATION FOR THE STUDY

The Population of the study is prospective Teachers pursuing their B.Ed. course in different teacher education institution of Patna.

10. SAMPLE

The sample for the present study consists of 180 prospective teachers of Patna.

11. STATISTICAL TECHNIQUES USED

- Mean
- Standard Deviation
- 't' test

12. DELIMITATIONS OF THE STUDY

- The researcher has taken 180 samples from the state of Bihar.
- The researcher has taken only B.Ed. trainees for the study.
- The survey method is used in the research.
- Majority of the Prospective Teachers are from the urban area.

13. NULL HYPOTHESIS

- There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of gender.
- There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of educational qualification.
- There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis medium of instruction.
- There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of family type.

Null Hypothesis – 1

There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of gender.

Table – 1 Gender Wise Teaching Habits of Prospective Teacher of Patna

Gender	N	Mean	SD	t-value	Level of Significance
Male	87	122.44	10.6	1.529	NS
Female	93	125.01	11.8		

(At 5% level of significance, the table value of 't' is 1.96)

From the above table, it is inferred that the calculated value of 't' is 1.529 which is less than the table value of 't' 1.96 at 0.05% level of significance. Further, the mean scores of female prospective teachers is 125.01 which is significantly more than that of male prospective teachers which is 122.44. Therefore, female teaching habits of prospective teachers is better than that of male. Hence, there is a significant difference between male and female prospective teachers in their teaching habits in AI driven world.

Null Hypothesis – 3

There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of educational qualification.

Table – 2 Educational Qualification Wise Teaching Habits of Prospective Teacher of Patna

Type of School	N	Mean	SD	t-value	Level of Significance
Graduate	139	123.82	11.14	0.289	NS
Post Graduate	41	123.21	11.82		

(At 5% level of significance, the table value of 't' is 1.96)

From the above table, it is inferred that the calculated value of 't' is 0.289 which is more less the table value of 't' 1.96 at 5% level of significance. Further, the mean scores of Graduate is 123.82 which is significantly more than that of post graduate which is 123.21. Therefore, graduate teaching habits of prospective teachers is better than that of post graduate. Hence, there is a significant difference between graduate and post graduate prospective teachers in their teaching habits in AI driven world.

Null Hypothesis – 3

There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of medium of instruction.

Medium of Instruction Wise Teaching Habits of Prospective Teacher of Patna

Medium of Instruction	N	Mean	SD	t-value	Level of Significance
Hindi	110	124.64	11.6	1.467	NS
English	70	122.17	10.6		

(At 5% level of significance, the table value of 't' is 1.96)

From the table, it is inferred that the calculated value of 't' is 1.467 which is less than the table value of 't' 1.96 at 5% level of significance. Further, the mean scores of Hindi medium prospective teacher is 124.64 which is significantly more than that of English medium prospective teachers which is 122.17. Therefore, the prospective teachers of Hindi medium are better than that of English medium in their teaching habits. Hence, there is a significant difference between Hindi and English medium prospective teachers in their teaching habits in AI driven world.

Null Hypothesis – 4

There is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of family type.

TABLE NO. 4.36 Family Type Wise Teaching Habits of Prospective Teacher of Patna

Family Type	N	Mean	SD	t-value	Level of Significance
Joint	95	121.81	11.09	2.34	S
Nuclear	85	125.72	11.18		

(At 5% level of significance, the table value of 't' is 1.96)

From the above table, it is inferred that the calculated value of 't' is 2.34 which is more than the table value of 't' 1.96 at 5% level of significance. Further, the mean scores of nuclear family prospective teachers is 125.72 which is significantly more than that of joint family prospective teachers which is 121.81. Therefore, the prospective teachers of nuclear family are better than that of joint family prospective teachers in their teaching habits. Hence, there is no significant difference between joint family and nuclear family prospective teachers in their teaching habits in AI driven world.

14. CONCLUSION

It is concluded from the above tables that there is a significance difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of Gender, Educational Qualification, and Medium of Instruction whereas there is no significant difference between the mean scores of Teaching Habits of Prospective Teachers of Patna in an AI Driven on the basis of type of family.

15. EDUCATIONAL IMPLICATIONS

The present study highlights that prospective teachers in Patna need to understand what AI is how it works and how to use it in teaching learning process. Traditional approaches, methods, strategies, and techniques must be updated. AI tools facilities not only learning method, content designing and course delivery but also for comprehensive digital assessments for all-round development of the children. Teachers should emphasis on critical thinking and creativity, not just memorization. Ongoing training is important as AI keeps changing and updating. They must also learn to use AI ethically and manage classrooms with technology. The curriculum and education policies need to change to support this shift. It is also important to give all teachers and students equal access to AI tools and training, so everyone can get advantage in an AI-driven world. This is a new technology thus most of the people are not mindful of its full potential, hence we must include a dedicated subject or program in every educational institution.

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