mLAC Journal for Arts, Commerce and Sciences (m-JACS)
Volume 4, No.2, June 2026, P 1-5
ISSN: 2584-1920 (Online)

AWARENESS OF ARTIFICIAL INTELLIGENCE AMONG SECONDARY SCHOOL TEACHERS: A QUANTITATIVE STUDY

Shaikh Sara Nazneen[1*]
[1]Department of Education, H.G.M Azam College of Education, Dr. P.A. Inamdar University, Pune. India.
Corresponding author email address: **shaikhshara8@gmail.com**

Paper Received: 20.05.2026 | Revised: 28.05.2026 | Accepted: 29.05.2026

DOI: https://doi.org/10.59415/mjacs.338

Abstract

Artificial Intelligence (AI) is rapidly transforming various sectors, including education, by enabling personalized learning, intelligent assessment, and enhanced teaching practices. The successful integration of AI in education largely depends on teachers' awareness and understanding of AI technologies. The present study aimed to examine the level of awareness of Artificial Intelligence among secondary school teachers and to compare AI awareness based on gender. A quantitative cross-sectional survey design was employed, and data were collected from 100 secondary school teachers selected through purposive sampling from schools in Pune city. An AI Awareness Scale was used to measure teachers' awareness of AI and its educational applications. The findings revealed that secondary school teachers possess a moderate level of awareness regarding AI, with a mean score of 59.31. The study further found no statistically significant difference in AI awareness between male and female teachers. These results indicate that while teachers are familiar with basic AI concepts and tools, there remains considerable scope for improving their AI literacy and practical competencies. The study highlights the importance of incorporating AI-focused training, workshops, and professional development programs into teacher education to facilitate the effective integration of AI technologies in teaching and learning. Strengthening teachers' AI awareness is essential for preparing educational systems to meet the demands of an increasingly technology-driven future.

Keywords: Artificial Intelligence, AI Awareness, Secondary School Teachers, AI in Education, Educational Technology, Teacher Education, Digital Literacy, Professional Development.

1. INTRODUCTION

Edward Fredkin, a developer and respected authority in artificial intelligence, says, “There are three great events in history. The first is the making of the Universe. The second is the arrival of life. Third is the rise of artificial intelligence”. The phrase implies that the potential of artificial intelligence, its future influence, is much more than we now imagine. It is thought that this fast growing technology will contribute much to the improvement of education from various perspectives and will stimulate more the solution of the problems encountered in the educational process. Technologies that give robots human-like intelligence so they can learn, adapt, and make decisions on their own are referred to as artificial intelligence (AI) (Chenet al., 2020). AI has a profoundly revolutionary potential that extends to emerging interdisciplinary fields like Artificial Intelligence in Education (AIEd), as seen by its wide-ranging effects on many industries, economies, and social structures. The use of AI in education has enormous potential to transform methods of instruction. AI presents intriguing opportunities to improve educational results, from data-driven insights to tailored learning experiences. However, the ability of educators to fully utilize AIEd depends on their readiness and knowledge.

Education can now be provided anywhere and at any time thanks to developments in artificial intelligence and technology. Furthermore, alternatives like project-based learning, individualized learning, and free choice are now

.
possible because to the incorporation of artificial intelligence (AI) into educational systems. These days, virtual reality, augmented reality, online learning, and distant learning are the main applications of artificial intelligence systems in education. The development of these systems has altered not only the kind of person the educational system seeks to produce but also how education itself operates. Artificial intelligence-enabled educational materials and software provide human-like characteristics including reasoning, abstracting, learning, adjusting to new circumstances, and promoting interaction. However, since AI is not a panacea, it is crucial to evaluate these technologies cautiously. Although AI's use in education, particularly in active learning, is growing and enhancing existing teaching strategies, it is crucial to approach its advantages cautiously. The amount of study on this subject is expanding every day, demonstrating both the promise and the necessity of carefully assessing AI in educational contexts.

For AI technologies to be used in education effectively, teacher awareness of the technology is crucial. More thorough research on AI literacy in the context of teacher education is necessary, according to Ng et al. (2023). This emphasizes how crucial it is to assess teachers' knowledge of AI technologies. So. The purpose of this study is to ascertain secondary teachers' knowledge of AI.

2. REVIEW OF LITERATURE

Chandran, J. E. Merlin Sasikala, and T. Ravi. (2026). carried out a study named "Awareness of Artificial Intelligence Among School Teachers for Effective Classroom Learning" to gauge teachers' awareness of AI and how it affects instruction. Using simple random sampling, 120 government and private school teachers in Tamil Nadu participated in the study, which used the descriptive survey approach. Data was gathered using a self-created Artificial Intelligence Awareness Scale. The results showed that instructors' awareness of AI was moderate. Teachers with prior experience using digital tools and those who had received AI-related training had noticeably better levels of awareness. Additionally, men educators showed a little greater awareness of AI than female educators. The study came to the conclusion that in order to increase teachers' AI competency and successfully integrate AI technology into the classroom, professional development programs and training are crucial.

Ismail Duygulu, Numan Koseer, Derya Uygun, and Isıl Aktaş (2024). carried out a study to gauge teachers' knowledge of AI and investigate whether awareness varied according to factors including years of teaching experience, graduation status, and age. The "Teachers' Artificial Intelligence Awareness Scale" was used to collect data from a sample of 147 educators for the study. The results showed that instructors' awareness of AI was moderate. Variations in AI awareness among various groups were examined using statistical methods including one-way ANOVA and independent sample t-test. The findings showed that teachers with more academic credentials and those who were younger showed more practical knowledge and awareness of AI.

The comparatively small sample size and dependence on participant self-reported responses were two of the study's stated weaknesses. Despite these drawbacks, the researchers stressed that creating successful training programs and educational efforts pertaining to AI integration in education requires a knowledge of teachers' awareness of AI.

Ali Kürşat Erümit, Hasan Karal, and Mesut Ayaz (2025). examined the awareness of artificial intelligence among teachers based on many factors. 519 elementary and secondary school teachers in Trabzon participated in the study, which used the relational screening methodology to assess the teachers' awareness of AI. The results showed that postgraduate degree holders, information technology teachers, younger teachers, and teachers with less professional experience all had higher levels of AI awareness. Additionally, compared to teachers in rural areas, those in metropolitan areas showed noticeably higher awareness of AI. The study found that teachers' understanding and self-efficacy regarding AI are greatly influenced by a number of characteristics, including age, experience, qualifications, teaching branch, and locality.

3. RESEARCH QUESTIONS

1. To what extent are secondary school teachers aware of AI and its capabilities?

4. OBJECTIVES OF THE STUDY

- **i.** To study the level of awareness of AI of secondary school teachers.
- **ii.** To compare the awareness of AI tools of secondary school teachers based on gender.

5. HYPOTHESES

- **i.** The level of awareness of AI tools in teachers is of moderate level.

.

ii. There is no significant difference in awareness of AI tools in secondary school teachers based on gender based on gender

6. METHODOLOGY / RESEARCH DESIGN

Sample Size and Sampling Method:

In the present study, a sample of 100 secondary school teachers was selected. For sampling, Purposive sampling technique was used to select 100 secondary school teachers.

Research Design:

To examine the AI awareness of secondary school teachers regarding the artificial intelligence (AI) in education, a cross-sectional survey design was employed in this study. The survey was structured to collect quantitative data, specifically focusing on teachers' awareness of AI.

Participants:

The survey engaged a total of Hundred (100) secondary school teachers. The participants were specifically selected from schools, ensuring a representation of the diverse educational settings within the Pune city. The demographic composition encompassed 30 male teachers and 70 female teachers.

Tools and Techniques:

"AI awareness Scale" was designed to capture essential information regarding teachers' awareness of AI in the context of education.

7. DATA ANALYSIS / FINDINGS

i. First objective of the research was, "To study the level of awareness of AI of secondary school teachers". Corresponding to the objective, following hypothesis was formulated, "the level of awareness of AI tools in teachers is of moderate level". To check the level of AI awareness of secondary school teachers, Mean of the overall score was computed. In the table below, Mean of the overall score of AI awareness of secondary school teachers is mentioned.

N	**100**
Mean	**59.31**

Table 1: Mean of the overall score of awareness of AI tools among teachers.

Table 1 shows the mean of the overall score of awareness of AI of secondary school teachers. According to the norm table of the AI awareness scale, the score obtained from the statistical mean 59.31 lies in the average category. Thus, the first hypothesis, i.e- " The level of awareness of AI of secondary school teachers is of moderate level" is accepted.

ii. Second objective of the present research was "**To compare the awareness of AI tools of secondary school teachers based on gender**". Corresponding to the objective, following hypothesis was formulated," There is no significant difference in awareness of AI tools in secondary school teachers based on gender based on gender".

To test the aforementioned hypothesis, t-test was computed. The table below displays the mean scores and Standard Deviation score of the male and female teachers in AI awareness test.

Gender	**Male**	**Female**
Mean	60.56	58.77
S.D	7.83	9.03
N	30	70

Table 2: Mean scores and Standard Deviation score of the male and female teachers in AI Awareness test.

.

To test gender differences in AI awareness, a t-test was performed, resulting in a t-value of 1.92, which is less than the critical value of 1.98 at the 0.05 level of significance. This finding indicates that there is no statistically significant difference between male and female teachers in their levels of AI awareness. Hence, the null hypothesis of no significant difference is accepted.

8. DISCUSSION

There is no denying, artificial intelligence's (AI) widespread impact on a variety of industries, from healthcare to banking, which represents a paradigm shift in the way people use and engage with technology. AI has the revolutionary potential to handle a variety of learning styles, adjust to the demands of each individual student, and provide real-time feedback in the field of education. This possible effect is especially significant for secondary school teachers, who are at the vanguard of educational breakthroughs due to their crucial role in forming a child's academic foundation.

The combination of AI with education fosters the development of creative teaching strategies, giving teachers the chance to use dynamic ways that enthrall and involve young students. But for AI to be implemented successfully, secondary school instructors must have a strong awareness base and favorable attitudes. In order to ensure that AI is seamlessly incorporated into the educational landscape and in line with broad educational objectives, this foundation is essential. Since educators are at the nexus of pedagogy and technology, it is critical to comprehend how they view AI in order to fully utilize its potential to improve education.

9. CONCLUSION

The goal of the current study was to compare secondary school teachers' awareness of artificial intelligence (AI) according to gender. According to the study's findings, secondary school instructors have a moderate understanding of AI tools and how they might be used in the classroom. Teachers are relatively familiar with AI concepts and technologies, according to the acquired mean score of 59.31, but there is still much room for improvement in terms of their comprehension and actual use of AI in the teaching-learning process.

The survey also found that there is no discernible difference in the awareness of AI between male and female educators. The mean scores of male teachers were marginally higher than those of female teachers, but the difference was not statistically significant. This suggests that both male and female teachers have similar exposure to and comprehension of AI technology in education, and that gender has no bearing on teachers' awareness of AI.

The results highlight how crucial it is becoming for teacher education and professional development programs to incorporate AI awareness and training. Teachers must have the necessary knowledge and abilities to use AI-based solutions for student engagement, classroom management, assessment, and personalized learning as the technology continues to impact educational practices. In order to improve teachers' AI literacy and promote the significant integration of AI in education, educational institutions and policymakers should host workshops, training courses, and orientation sessions. The study's overall findings emphasize the necessity of ongoing professional development to equip educators for the rapidly changing technological environment in the classroom.

10. STATEMENTS & DECLARATIONS:

Use of AI Statement

The authors declare that they have not used generative artificial intelligence, specifically ChatGPT in the writing of this manuscript and/or in the creation of images, graphics, tables, or their corresponding captions

Conflict of Interest and Declarations:

Authorship contribution statement: Shaikh Sara Nazneen: Carrying the Experimental work, Data curation and writing the original manuscript and original draft.

Acknowledgements: Nil

Compliance with Ethical Standards:

Conflict of Interest : The authors state that they don’t have any conflict of interest.

Animal and Human Participants: Nil

Informed consent : Authors stated that there is no informed consent in the article.

Funding : Nil

Data availability: All the data included in this research article will be provided on request

.

11. REFERENCES

1. Ayaz, M., Karal, H., & Erümit, A. K. (2025). Investigating Teachers' Awareness Levels of Artificial Intelligence Based on Different Variables. Ordu Üniversitesi Bilim Ve Teknoloji Dergisi, 15(2), 274-289. https://doi.org/10.54370/ordubtd.1706078
2. Chandran, T. Ravi, and J. E. Merlin Sasikala.(2026).Awareness of Artificial Intelligence Among School Teachers for Effective Classroom Learning. Asian Journal of Education and Social Studies 52 (4):150-55. https://doi.org/10.9734/ajess/2026/v52i42949.
3. Chen, L., Chen, P., & Lin, Z. (2020). Artificial Intelligence in Education: A Review. IEEE Access, 8, 75264–75278. https://doi.org/10.1109/access.2020.2988510
4. Güneyli, A., Burgul, N. S., Dericioğlu, S., Cenkova, N., Becan, S., Şimşek, Ş. E., & Güneralp, H. (2024). Exploring Teacher Awareness of Artificial Intelligence in Education: A Case Study from Northern Cyprus. European Journal of Investigation in Health, Psychology and Education, 14(8), 2358-2376. https://doi.org/10.3390/ejihpe14080156
5. Goertzel, Ben. (2014). Artificial General Intelligence: Concept, State of the Art, and Future Prospects. Journal of Artificial General Intelligence. 10.2478/jagi-2014-0001.
6. Haque, Md. (2024). School Teachers' Awareness and Perceptions of Artificial Intelligence in Science Education: A Study of Secondary School. Synergy: International Journal of Multidisciplinary Studies. 1. 23-28. 10.63960/sijmds-2024-119
7. Kordon, A.K. (2020). Data Science Based on Artificial Intelligence. In: Applying Data Science. Springer, Cham. https://doi.org/10.1007/978-3-030-36375-8_1
8. Khanday, Sumbl & Khanam, Deeba. (2023). The Research Design. 06. 376.Retrieved from, https://www.researchgate.net/publication/368257495_THE_RESEARCH_DESIGN
9. Uygun, D., Aktas¸, I., Duygulu, I., & K¨oseer,N. (2024). Exploring teachers' artificial intelligenceawareness.Advances in Mobile Learning EducationalResearch,4(2), 1093-1104. https://doi.org/10.25082/AMLER.2024.02.004