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Attitude of B.Ed. Trainees towards Artificial Intelligence and Academic Integrity

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Abstract
Artificial intelligence (AI) is currently experiencing an unprecedented phase of rapid advancement, fundamentally reshaping every aspect of existence. Academic integrity is often referred to as the 'ethical consideration or ethical code of academia'. It focuses on advancing and fostering creativity. Many B.Ed. trainees pursuing professional degrees often struggle to comprehend how AI can be utilised in educational settings and classrooms. The objectives of this present study were to know the attitudinal status of B.Ed. trainees towards artificial intelligence & academic integrity and to investigate the attitude of B.Ed. trainees towards artificial intelligence & academic integrity based on gender & location. A quantitative research design was followed and a descriptive survey method was used in this study, which involved 330 B.Ed. trainees. All the B.Ed. trainees were randomly selected from 6 teachers' training colleges in West Bengal. A self-constructed attitude scale namely, the Attitude Scale towards Artificial Intelligence and Academic Integrity ($ASAI_{\&}AI$) was used to collect data. The researchers personally conducted thorough checks to ensure the required validation and reliability of the items. Descriptive, inferential statistics and percentage values were used to analyse the data using SPSS 20 and MS Excel 2007. The study showed an unequal distribution in the attitudinal status of B.Ed. trainees towards artificial intelligence and academic integrity. The study also revealed that there was no significant difference between male and female B.Ed. trainees in their attitude towards artificial intelligence and academic integrity, but there was a significant difference between the attitude of rural and urban B.Ed. trainees towards artificial intelligence and academic integrity. According to this study, male and female B.Ed. trainees had similar opinions about AI and agreed that AI tools that may compromise academic integrity should not be used. However, B.Ed. trainees in rural and urban areas do not have the same attitude towards AI. The study concluded that artificial intelligence offers B.Ed. trainees a more enriching and fulfilling learning experience in education. However, it also noted differences in their attitude towards upholding academic integrity.
Keywords: *academic integrity, artificial intelligence, attitude, B.Ed. trainees, education*

Introduction

In recent times, there has been a significant increase in the advancement of artificial intelligence technology. This growth has led to greater participation in related activities such as academic conferences, scientific research and technical competitions across the globe. Technology and its applications have seen rapid updates and expansion. Furthermore, ongoing innovation in intelligent products has significantly increased convenience and productivity in people's education, work, and daily life (Kiani, Shah, Anjum, Tabbasum, & Ishaq, 2023). Artificial intelligence can transform the education sector by improving teaching and learning through personalised experiences, potentially leading to improved learning outcomes. Artificial intelligence supports education by helping students gather information, make practical decisions and tackle real-world problems, thereby enhancing

their skills in various academic disciplines (Alam, 2020). Academic integrity is legal protection granted to inventors or creators to protect their inventions, or creations for a specified period (Singh, 2004). It encompasses a broad range of legally recognised rights arising from or related to intellectual creativity (Kinsella, 2001). Students carry their dishonest practices into their professional environment. As graduates eventually integrate into society, promoting academic integrity in higher education plays an important role in promoting ethical behaviour in the wider community (Christensen & McCabe, 2006).

Need and Significance

In conventional methods of teaching, it is challenging to bring natural phenomena and scenes of everyday life into the classroom. Academic dishonesty can be seen as a harmful issue that undermines the academic integrity policy of universities (Salleh, Alias, Hamid, & Yusaoff, 2013). However, with the integration of artificial intelligence and academic integrity into education, it becomes feasible for B.Ed. trainees to animate and articulate these visuals. Maintaining academic integrity in the educational environment is essential for several reasons. An institution's ethical standards directly affect both its reputation and academic excellence (Christensen, 2011). The integration of modern artificial intelligence in education is set to transform how knowledge is taught, shared, and understood, sparking a revolution in the field. Technology and the Internet can enable academic dishonesty in assignments by offering different methods for students to cheat (Underwood & Szabo, 2003). This multifaceted approach allows B.Ed. trainees to experience learning in new ways, promote self-directed learning, and enhance their ability to learn independently through guided inquiry. B.Ed. trainees currently use AI products such as mobile teaching apps and online training platforms. Some teachers also employ automated assignment grading systems (Panda & Neha, 2024). However, the adoption of advanced AI tools such as smart classrooms and robotic assistants remains low. This suggests that AI applications and academic integrity in education are still in their infancy, due to inadequate teacher training. Upholding academic integrity in education is crucial for promoting honest and ethical behaviour in students (Parnther, 2021). Nevertheless, there is considerable potential for future development. In education, B.Ed. trainees need to be familiar with conventional artificial intelligence tools such as audio aids, visual, biometric identification, fingerprint scanners, and smart home devices to enhance the effectiveness of the teaching and learning process. The impact of AI has expanded globally across domains as diverse as research, education, and business, significantly enriching lives and changing perspectives (Kiani et al., 2023). It has paved the way for innovative educational methods by encouraging the acquisition of new social and life skills among students. Artificial intelligence assets and tools such as digital text, video, images, and audio play an important role in various fields (Johnson & Lee, 2022). They enhance cognitive abilities such as creativity, imagination, and emotional intelligence, thereby revolutionizing education to develop critical thinking, digital literacy, artistic skills, and photographic skills. The study will help to express the attitude of B.Ed. trainees towards AI and academic integrity.

Review of Related Literature

Jain and Jain (2019) revealed the impact of AI on various aspects of higher education and found that its application enhances student learning, highlighting significant potential for the sector. Roy (2020) did not find a significant disparity in awareness of AI based on gender; she did identify differences in their views regarding the impact of AI in enhancing personalised learning and interactivity. Jaiswal and Arun (2021) conducted a literature review and interviews with four senior managers of prominent Indian education technology companies to explore the potential of AI and highlighted its practical implications for reforming education systems in developing countries. Karthik and Sivakumar (2022) found there was no significant difference between male and female trainees, but a significant difference between rural and urban trainees in their attitude towards using social media. Ahammad (2023) explored that there was a significant difference between male & female and rural & urban pupil-teachers in their attitude towards AI. Beig and Qasim (2023) investigated a

significant difference in the attitudes of male and female senior secondary students towards artificial intelligence. Bozok (2023) showed that students participating in online English courses generally have a negative attitude towards violations of academic integrity related to tests, assignments, and virtual sessions. Davis (2023) found that different perspectives on academic integrity and underscore the importance of updating policies to consider academic integrity as a skill to cultivate. Kasinathan and Mathew (2023) found non-significant differences among male & female and rural & urban teachers in their attitude towards e-learning. Nenezic, Krtolica, Jelic, and Sekaric (2023) indicated that while respondents perceive the significance of academic integrity, particularly the principle of integrity, they do not fully perceive all its different aspects in the same manner. Ali, Tariq, and Khalid (2024) addressed the challenges that compromise academic integrity in higher education institutions, focusing on important issues such as plagiarism, cheating in examinations, cheating in contracts, collusion, facilitation, and cheating among others. Khasawneh (2024) concluded that maintaining academic integrity while using ChatGPT for academic work plays a key role in reducing the relevance of other social concerns. Panda and Neha (2024) revealed that there existed a significant difference in the secondary school teachers' attitude towards bichronous online learning use regarding gender and locality. The researchers, while reviewing previous studies did not investigate the attitude of B.Ed. Trainees towards AI and academic integrity. This omission created a research gap, which motivated them to continue this study.

Objectives

The objectives of this present study were:

O_1: To know the status of the attitude of B.Ed. trainees towards artificial intelligence and academic integrity.

O_2: To investigate the attitude of B.Ed. trainees towards artificial intelligence and academic integrity based on gender.

O_3: To investigate the attitude of B.Ed. trainees towards artificial intelligence and academic integrity based on location.

Research Question

RQ: What is the level of attitude of B.Ed. trainees towards artificial intelligence and academic integrity?

Hypotheses

Based on the objectives, the following hypotheses were framed for this study:

$H_0$1: There is no significant difference between male and female B.Ed. trainees regarding their attitude towards artificial intelligence and academic integrity.

$H_0$2: There is no significant difference between rural and urban B.Ed. trainees regarding their attitude towards artificial intelligence and academic integrity.

Delimitations

The present study was delimited to:

1. Teachers' training colleges from North 24 Parganas and Kolkata in West Bengal.
2. B.Ed. trainees only.
3. Self-financed teachers' training colleges affiliated with Baba Saheb Ambedkar Education University (BSAEU) only.

Methodology

The study used a descriptive survey method.

Research Design: Quantitative research design was adopted for the study.

Population: The population of the study was all the B.Ed. trainees of teachers' training colleges in the southern part of West Bengal.

Sample: For this present study, 6 teachers' training colleges (4 rural & 2 urban) and 330 B.Ed. trainees (170 male trainees & 160 female trainees and 177 rural trainees & 153 urban trainees) were randomly selected.

Sampling Technique: Stratified random sampling technique was used for this study.

Variables: In this study, the researchers considered two types of variables. The primary variable was attitude towards artificial intelligence, as the major variable, while the secondary variables included gender (male and female) and location (rural and urban), both of which were categorical variables.

Procedure of Data Collection: A self-structured questionnaire with closed-ended questions was used to collect data for this study. Researchers collected data through a field survey. The questionnaire was checked and validated by the experts before application.

Tool Used: To collect data, the investigators used a standardised tool, the Attitude Scale of B.Ed. Trainees towards Artificial Intelligence and Academic Integrity (ASBTTAI&AI), which was developed by the researchers. This tool comprised 22 items rated on a three-point Likert scale, based on 3 dimensions (learning experience, effective teaching & learning, and imagination & creativity). The response options provided were Agree, Neutral and Disagree. The scoring system for the items included 14 positive items (scored as Agree-3, Neutral-2, and Disagree-1) and 8 negative items (scored as Agree-1, Neutral-2, and Disagree-3).

Validity and Reliability: Expert validation was done for the items. The scale's reliability was determined by the test-retest method and the reliability coefficient was found .60. This coefficient was high.

Procedure of Data Analysis: In this study, data was analysed using descriptive statistics (including measures such as mean, *SD*, and percentile) and inferential statistics (such as independent-samples *t*-test tested at a significance level of .05) by SPSS 20 and graphical representation, particularly pie graph, was created using MS Excel 2007.

Results and Interpretation

Exploration of RQ: What is the level of attitude of B.Ed. trainees towards artificial intelligence and academic integrity?

Table 1: *Percentile Status for Attitude of B.Ed. Trainees towards Artificial Intelligence and Academic Integrity*

Percentiles	Raw Scores	No. of Teachers	Percentage	Levels of Attitude towards Gender Sensitivity
P75 & Above	58 & Above	95	28.79	High
P25 to P75	51 to 57	175	53.03	Moderate
P25 & Below	50 & Below	60	18.18	Low
Total		**330**	**100**	-

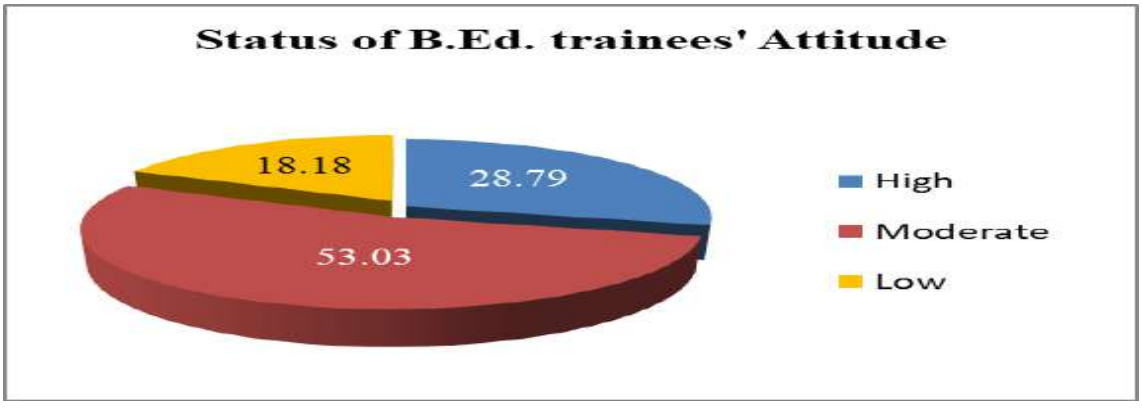

Figure 1: *Pie Graph for Status of B.Ed. trainees' Attitude towards Artificial Intelligence and Academic Integrity*

Table 1 and figure 1 revealed that 28.79% of the samples (95 B.Ed. trainees) had the attitude of high level of artificial intelligence and academic integrity, 53.03% of the samples (175 B.Ed. trainees) had the attitude of moderate level of artificial intelligence and academic integrity, and 18.18% samples (60 B.Ed. trainees) had the attitude of low level of artificial intelligence and academic integrity.

Testing of $H_0$1: There is no significant difference between male and female B.Ed. trainees regarding their attitude towards artificial intelligence and academic integrity

Table 2: *Mean Comparison of Attitude of B.Ed. Trainees towards Artificial Intelligence* and Academic Integrity*: Gender*

Gender	*N*	*M*	*SD*	Mean Difference	S_{ED}	*t*(328)	*p*	Result
Male	170	54.31	3.99	.08	0.43	.18*	.86	*Not significant at .05 level
Female	160	54.23	3.88					

Table 2 revealed a non-significant mean difference between the male and female B.Ed. trainees on their attitude towards artificial intelligence and academic integrity with $t(328) = .18$, $p > .05$. Table 2 showed that female B.Ed. trainees exhibited lower attitude scores on artificial intelligence and academic integrity ($M = 54.23$, $SD = 3.88$) compared to the male B.Ed. trainees ($M = 54.31$, $SD = 3.99$). Therefore, the null hypothesis ($H_0$1) was failed to reject.

Testing of $H_0$2: There is no significant difference between rural and urban B.Ed. trainees regarding their attitude towards artificial intelligence and academic integrity

Table 3: *Mean Comparison of Attitude of B.Ed. Trainees towards Artificial Intelligence* and Academic Integrity*: Location*

Location	*N*	*M*	*SD*	Mean Difference	S_{ED}	*t*(328)	*p*	Result
Rural	177	54.68	4.00	0.88	0.43	2.04*	.04	*Significant at .05 level
Urban	153	53.80	3.81					

Table 3 revealed a significant mean difference between the rural and urban B.Ed. trainees on their attitude towards artificial intelligence and academic integrity with $t(328) = 2.04$, $p < .05$. Table 3 showed that urban B.Ed. trainees exhibited lower attitude scores on artificial intelligence and academic integrity ($M = 53.80$, $SD = 3.81$) compared to the rural B.Ed. trainees ($M = 54.68$, $SD = 4.00$). Therefore, the null hypothesis ($H_0$2) was rejected.

Findings and Interpretation

The study of the data led to the discovery of these significant findings:

- Attitude of B.Ed. Trainees were found at a moderate level towards AI and academic integrity. Maximum B.Ed. trainees revealed their attitude towards artificial intelligence and academic integrity were moderate, fair, and sound; the least no. of trainees revealed low and unfavourable attitude, and the rest of the trainees revealed high and most favourable attitude towards artificial intelligence and academic integrity.
- Investigators found that there was a small difference in the mean value of male and female B.Ed. trainees' attitude, but it was marginal. Thus, it was clear that both male B.Ed. trainees' and female B.Ed. trainees' bear favorable attitude towards artificial intelligence and academic integrity.
- The mean value of rural B.Ed. trainees' attitude was more than the urban B.Ed. trainees' attitude. Hence, it was indicated that rural trainees' attitude was more positive towards artificial intelligence and academic integrity as compared to the urban trainees' attitude.

Discussion

The study revealed that a moderate level of B.Ed. trainees' attitude towards AI and academic integrity was observed. Therefore, it asserts that both male and female trainees have similar attitude towards artificial intelligence and academic integrity. The result was similar to the findings of Roy (2020), he found no significant difference in AI awareness between genders. Likewise, Karthik and Sivakumar (2022) found there was no significant difference between male and female student-teachers in their attitude towards using social media. Furthermore, Kasinathan and Mathew (2023) found no significant difference between male and female college teachers in their attitude towards e-learning. But contradicted to the findings of Ahammad (2023) and Beig and Qasim (2023), where there was a significant difference between the attitude of male & female trainees and male & female senior secondary students towards artificial intelligence respectively. The mean value of rural trainees' attitude was more than those of urban trainees. Hence, it was indicated that rural trainees' attitude was more positive towards AI and academic integrity as compared to urban trainees. Similarly, Panda and Neha (2024) investigated that there was a significant difference in the secondary school teachers' attitude towards bichronous online learning concerning locality. Equally, Ahammad (2023) and Karthik and Sivakumar (2022) revealed there was a significant difference between rural & urban trainees in their attitude towards using AI and social media respectively. However, it was dissimilar to the findings of Kasinathan and Mathew (2023), they investigated no significant difference observed between rural and urban college teachers in their attitude towards e-learning.

Suggestion and Conclusion

Based on the findings, that B.Ed. trainees exhibited a moderate attitude towards artificial intelligence and academic integrity, suggesting that they recognised its significance and benefits. The B.Ed. trainees' attitude towards AI and academic integrity was found at a moderate level. This indicated a positive change in attitude towards AI and academic integrity for the future teaching practice of B.Ed. trainees. Building a positive attitude towards AI and academic integrity in colleges, focusing on resources like digital libraries, online learning platforms and access to online journals should be a priority for management and government. The government can improve the attitude of rural B.Ed. trainees towards AI and academic integrity by providing them with pre-service training and increasing the facilities available. Workshops and seminars on integrating AI and academic integrity into teaching and learning can be incorporated into the curriculum of education at every level. Adequate instructional and infrastructural facilities need to be put in place to integrate AI and academic integrity into all school and college education.

With this consideration, the researchers surveyed to examine the attitude of B.Ed. trainees on the application of AI technology in education. The study showed that B.Ed. trainees had a positive view of AI application in education. Research has shown that artificial intelligence enhances the learning experience for B.Ed. trainees; make it richer and more fulfilling. Nevertheless, it also noted differences in their attitude towards maintaining academic integrity. To wrap up, it is imperious to study the B.Ed. trainees' attitude because they play an important role in determining the effectiveness of the teaching-learning process.

References

i. Ahammad, F. (2023). The attitudes of pupil-teachers towards artificial intelligence. *International Journal of Scientific and Engineering Research, 8*(9), 548-553.

ii. Alam, A. (2020). Possibilities and challenges of compounding artificial intelligence in India's educational landscape. *International Journal of Advanced Science and Technology, 29*(5), 5077-5094.

iii. Ali, M.A., Tariq, S.M., & Khalid, U. (2024). Academic integrity in higher education institutions (heis) of Pakistan: Problems and recommendations. *International Journal of Social Science Archives, 7*(2), 638-648.

iv. Beig, S., & Qasim, S.H. (2023). Assessing students' attitude towards artificial intelligence with respect to gender and use of computer and mobile devices. *International Journal for Multidisciplinary Research, 5*(3), 1-7.

v. Bozok, D. (2023). Attitudes of students towards violations of academic integrity in online English courses. *Journal of Learning and Teaching in Digital Age, 8*(2), 209-220. http://doi.org/10.53850/joltida.1177949

vi. Christensen H.J.M., & McCabe, D. L. (2006). Understanding academic misconduct. *Canadian Journal of Higher Education, 36*(1), 49-63. https://doi.org/ 10.47678/cjhe.v36i1.183525

vii. Christensen, K. M. (2011). *Attitudes of and Behaviors towards Academic Integrity between Community College Students Who Enroll in Online Courses versus Traditional Courses Doctor of Philosophy* [Doctoral Dissertation, Old Dominion University]. ODU Digital Commons.

viii. Davis, A. (2023). Academic integrity in the time of contradictions. *Cogent Education, 10,* 1-15. https://doi.org/10.1080/2331186X.2023.2289307

ix. Jain S., & Jain, R. (2019). Role of artificial intelligence in higher education- An empirical investigation. *International Journal of Research and Analytical Reviews, 6*(2), 144-150. http://ijrar.com/upload_issue/ijrar_issue_20544069.pdf

x. Jaiswal, A., & Arun, J. (2021). Potential of artificial intelligence for transformation of the education system in India. *International Journal of Education and Development using Information and Communication Technology, 17*(1), 142-158. https://files.eric.ed.gov/fulltext/EJ1285526.pdf

xi. Johnson, B., & Lee, C. (2022). Ethical considerations in AI research. *AI Ethics Review, 8*(3), 201-215.

xii. Karthik, U., & Sivakumar, R. (2022). Attitude of student-teachers towards using social media. *Journal of Contemporary Educational Research and Innovations, 12*(1), 18-23.

xiii. Kasinathan, O., & Mathew, C.J. (2023). Attitude of arts and science college teachers towards e-learning. *The Online Journal of Distance Education and e-learning, 11*(4), 3024-3029.

xiv. Khasawneh, M.A.S. (2024). Academic integrity and the use of ChatGPT by EFL pre-service teachers. *Journal of Infrastructure, Policy and Development*, *8*(7), 1-15. http://doi.org/10.24294/jipd.v8i7.4783

xv. Kiani, B., Shah, S.J.Z., Anjum, S., Tabbasum, R., & Ishaq, F. (2023). Artificial intelligence and pre service teacher: A study to assess the awareness and knowledge. *International Journal of Contemporary Issues in Social Sciences, 2*(4), 741-746.

xvi. Kinsella, N.S. (2001). Against intellectual property. *Journal of Libertarian Studies, 15*(2), 1–53.

xvii. Nenezic, S.C., Krtolica, M., Jelic, M., & Sekaric, S. (2023). Perceptions of students and teachers of the University of Montenegro on academic integrity. *Center for Educational Policy Studies Journal, 13*(3), 75-104. https://doi.org/10.26529/cepsj.1589

xviii. Panda, S.K., & Neha. (2024). Analysis of the attitude of secondary school teachers towards the use of bichronous online learning. *MIER Journal of Educational Studies Trends & Practices, 14*(1), 119-131.

xix. Parnther, C. (2021). Academic misconduct in higher Education: A comprehensive review. *Journal of Higher Education Policy and Leadership Studies, 1*(1), 25-45. http://dx.doi.org/10.29252/johepal.1.1.25

xx. Roy, M. (2020). AI intervention in education systems of India: An analysis. *Solid State Technology, 63*(2), 1395-1402. https://www.researchgate.net/publication/344739714

xxi. Salleh, M. I. M., Alias, R. N., Hamid, A. H., & Yusaoff, Z. (2013). Academic dishonesty among undergraduates in the higher education. *International Journal of Academic Research, 5*(2), 222-227. https://www.academia.edu/7645508/Academic_ Dishonesty _among _ Undergraduates_in_the_Higher_Education

xxii. Singh R. (2004). *Law relating to intellectual property (A complete comprehensive material on intellectual property covering acts, rules, conventions, treaties, agreements, case-Law and much more)*. New Delhi, India: Universal Law Publishing Co. Pvt. Ltd.

xxiii. Underwood, J., & Szabo, A. (2003). Academic offences and e-learning: Individual propensities in cheating. *British Journal of Educational Technology, 34*(4), 467-477. https://doi.org/10.1111/1467-8535.00343