IJCRT.ORG ISSN : 2320-2882

INTERNATIONAL JOURNAL OF CREATIVE RESEARCH THOUGHTS (IJCRT)

An International Open Access, Peer-reviewed, Refereed Journal

Perception Of Pre-Service B.Ed. Trainees Teachers Towards Artificial Intelligence

Dr. Shabana Jabeen Warsi
Assistant Professor
L.K .Mishra College of Teacher Education, Darbhanga.

Abstract

In today's era, artificial intelligence is playing a revolutionary role in the field of education; that is, in this era of digital technology, teaching and learning without AI is becoming difficult, especially in the field of teaching. It significantly affects the learning methods and assessment system. In this study, the view of future teachers, namely B.Ed. pupils' teachers, on artificial intelligence is of great importance because through them, modern educational technology will be put into practice. The objective of this research paper is to assess the overall effectiveness, awareness, and attitude of B.Ed. pupils' teachers towards artificial intelligence. for the conduct of the research paper, 100 B.Ed. pupil's teacher select through random sample from different institution, and for this, the descriptive survey research method was adopted as the research method, and the information was collected through a structured questionnaire (Google Form). This Google form consist 40 items from all the three dimensions. Based on the data analyses, it was observed that a large number of pupils teachers have a highly positive awareness towards AI 43% and find the effectiveness of AI positive concern with 33%, student-oriented, and attitude 38% strongly willing in making it as per individual needs. Nevertheless, some of the teachers also aired their concerns relating to the unqualified use of artificial intelligence. It can be stated that based on the findings of the study, even though the B.Ed. pupils teacher are in favor of artificial intelligence, in order to implement it efficiently, it is inescapable to include topics of artificial intelligence in the training programs of teachers. This research can prove to be a guide for policymakers, institutions providing teacher training programs, and educational planners.

Key Words: - Perception, B.Ed. Pupils Teacher and Artificial Intelligence.

Introduction

In 21st century educational field rapidly shifting towards digital technology, where artificial intelligence is a revolutionary force. Artificial intelligence is not only changing the structure of educational system but it is also changing the teaching methods, learning behavior. Assessment of the students and also impact on educational management system. Now modern educational institution adopting towards AI tools such as Intelligent tutoring system, Automated assessment, learning analytics, personalized learning (Holmes et al.,2019). The basic aims of artificial intelligence is to developed systems that is capable to thinking, learning, problem solving and decision making by imitating human intelligence (Russel & Norving,2021). The use of AI in the educational field not only makes a teacher work easier it is also help in providing education according to their individual needs of students. This Research paper has shown that AI- based educational system progress the student academic performance, educational activities, engagement in the learning process and learner autonomy (Zawacki- Richter et al.,2019). In this context the role of B.Ed. pupil teachers becomes crucial as the future teachers who set the directions of future generations. If the pupil teacher accepts artificial intelligence in positively, understand it and learn to use effectively in the teaching process then obviously significant improvements in educational quality are possible. Then other hand if the are afraid, unaware, or have a negative view about AI the pace of educational process may be affected (UNESCO 2021). Pupil teachers' perception plays a fundamental

role in the successful implementation of the any new technology. This research paper includes dimension such as **awareness, effectiveness** and **attitude**. Regarding artificial intelligence, if pupils' teachers consider it as a helpful educational tool, they can use it effectively in teaching, assessment, and classroom management. In other hand if it is perceived as a threat to the role of teachers, resistance may arise, which hinders educational reform (Selwyn, 2019). Moreover, AI can be an effective tool in solving the challenges facing the education system in the current era, such as diverse student needs, large classrooms, uniformity of educational standards, and lack of individual guidance. But for this, it is necessary to educate teachers, and especially pupils' teachers, about the educational benefits, limitations, and ethical aspects of AI.

Need and significance of the study

The need of the study education system is rapidly shifting towards digital technology, where Artificial Intelligence is becoming a fundamental educational tool. The use of AI in teaching planning, student assessment, personalized learning, digital learning platforms and educational management has significantly changed the structure and role of the education system (Holmes et al., 2019). In such circumstances, it becomes very important that future teachers, i.e. B.Ed. pupils teachers, have a positive understanding, accurate awareness and constructive their new technology. The biggest need for this study is related to the fact that the successful inclusion of any new educational technology depends on the attitude, ideology and acceptance of teachers. If pupils' teachers understand AI as an educational support system rather than just a technological change, they can use it effectively in the teaching process (Teo, 2011). In other hand, fear, distrust, or negativity about AI can be a major obstacle to educational reform (Selwyn, 2019). Therefore, it is essential to study this research paper in order to identify the factors that lead to acceptance or resistance to AI. Furthermore, AI can be an effective tool in solving the problems facing the current education system, such as large classrooms, individual student needs, disparities in educational standards, and the increasing teaching burden on teachers (Zawacki-Richter et al., 2019). But for this, it is necessary that teachers and especially pupils' teachers are aware of the educational uses, benefits, and limitations of AI. This is why there is a strong need for research on this topic. At the same time, this research can also contribute to the promotion of human values, ethical principles, and a balanced integration of AI and human values in the future education system. Therefore, it can be said that studying the ***perception of B.Ed. pupils' teachers towards artificial intelligence*** is not only an educational need but also a social and intellectual requirement. This research paper can prove to be an importance milestone in the intellectual preparation of future teachers, innovation of the education system, and promotion of the responsible use of modern technology.

Research question and Hypotheses of the study

This research paper is based on the data how B.Ed. pupil's teacher's perception and understand AI and attempts to find out what is their level of awareness about AI? What is their attitude is positive or negative? and to what extent they are mentally and practically prepared to use AI in the teaching process. This study also attempts to understand whether gender, pupils' teachers' perception, and whether awareness of AI influences their future teaching role, professional preparation, and teaching style. The research also examines whether pupils' teachers' perception AI as an educational assistant or as an alternative system, and to what extent this view influences their educational decisions and teaching learning process.

This study hypothesized that B.Ed. pupils' teachers would have a positive overall perception of AI and would consider AI as a supportive educational resource in the teaching process. It was further hypothesized that pupils' teachers who have more experience in using digital technology would have a more positive view of AI, while pupils' teachers with limited technical skills would have a relatively uncertain and negative attitude. It was also hypothesized that factors such as gender in pupils' teachers'

perception, and the level of awareness of AI directly impacts their attitude, acceptance, and willingness to use.

This study is limited to B.Ed. pupils' teachers and its scope covers the analysis of their views, attitudes, awareness, and effectiveness to use AI in the educational context of AI. The focus of the research is on the role of artificial intelligence in the context of intellectual preparation, professional training and educational thinking of pupil's teachers and this research has the potential to provide guidance for teacher training institutions, curriculum development and educational policy making. However, this study does not cover students, in-service teachers, educational administrators or the administrative system of educational institutions but is limited to the theoretical and educational perspective of pupil's teachers.

This research paper will be conducted within geographical, institutional and demographic boundaries in which the sample will be limited to pupils' teachers of selected B.Ed. institutions. The data in the research will mainly depend on questionnaire. This study will not include the technical, engineering and programming aspects of artificial intelligence but will focus only on its educational, intellectual and theoretical aspects.

Research Methodology

To conduct this research paper is based on a survey research design to study the attitude of B.Ed. pupils' teachers towards artificial intelligence, in which a quantitative research method has been adopted to examine the attitude, awareness, and effectiveness of pupil's teachers in a scientific and objective manner. The population of the study consists of 100 B.Ed. pupils' teachers, belonging to selected different B.Ed. colleges, while the sample was selected from the same population through random sampling technique to obtain representative and reliable data. The main objective of the study is to systematically and scientifically analyze the intellectual preparation of future teachers and their views regarding the educational role of artificial intelligence.

A self-developed standardized questionnaire was used as a research instrument to obtain data, which consists of a total of 40 items and is based on a five-point Likert scale, which includes the options of Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree. This questionnaire consists of three main dimensions: the first dimension is awareness towards artificial intelligence , which includes items 1 to 14 and is designed to assess pupils teachers' understanding, perception, knowledge and awareness of the educational role of AI. The second dimension is effectiveness of artificial intelligence which includes items 15 to 27 and is designed to assess student teachers' views on the impact of AI on teaching practices, personalized learning, student performance and educational outcomes. The third dimension is attitude towards artificial intelligence, which includes items 28 to 40 and is designed to assess student teachers' emotional, intellectual and practical orientation, acceptance, confidence and willingness .The questionnaire included both positive and negative items to balance responses, reduce response bias, and accurately reflect the true views of student teachers, while negative items were scored through reverse coding so that the total score represented the true views.

Tool Description

SI	Name of Dimension	Items No.	Nature of Items
1	Awareness towards AI	1 to 14	7 positive & 7 negatives
2	Effectiveness of AI	15 to 27	7 positive & 6 negative
3	Attitude towards AI	28 to 40	6 positive & 7 negative

The development of the research tool was based on previous research studies, authoritative academic literature, and international literature on artificial intelligence to ensure content accuracy and theoretical grounding (Creswell, 2014; Fraenkel, Wallen, & Hyun, 2019; UNESCO, 2021). Before implementing the questionnaire in the field, expert validation was conducted with academics and research experts to improve language, structure, meaning, and research relevance, which strengthened the construct validity of the instrument (Lawshe, 1975; Polit & Beck, 2006). Pilot testing of the questionnaire was conducted on a limited sample to check the clarity, comprehensibility, and structural consistency of the items, and

to identify potential shortcomings and further improve the tool (DeVellis, 2016; Cohen, Manion, & Morrison, 2018).To ensure the reliability of the instrument, the internal consistency method was adopted and the reliability of the questionnaire was determined through Cronbach's Alpha, and which found 0.82 this proved that the instrument is reliable according to research standards and has consistency in the results. Various aspects of validity including content validity, construct validity and face validity were taken into account so that the research instrument could truly measure the concept for which it was developed. Thus, the questionnaire was formed as a standard research instrument in accordance with scientific principles, research standards and the requirements of educational research.

Data Analysis and interpretation

After collecting the data through the google form, it was analyzed through statistical methods, in which the overall theory, awareness, concept of efficacy and attitude of the student teachers were clarified through descriptive statistics such as mean, standard deviation and percentage analysis, while the relationship and difference between different variables were analyzed through inferential statistics. Based on the results obtained, interpretations and conclusions were drawn to understand from what perspective B.Ed. Pupils teachers perception towards artificial intelligence and to what extent they are ready to accept its role in the future education system. Thus, this Methodology has been developed in accordance with research principles, scientific methodology and educational research standards, which ensures the validity, objectivity, reliability and usefulness of the research and provides the results with a strong and reliable basis for educational policy-making, teacher training and curriculum development.

Dimension-wise Analysis Table

SI	Dimension	Strongly Agree (%)	Agree (%)	Neutral (%)	Disagree (%)	Strongly Disagree (%)	Overall Perception
1	Awareness towards AI	43	38	10	6	3	Highly Positive
2	Effectiveness of AI	33	38	14	10	5	Positive with Concerns
3	Attitude towards AI	38	38	11	8	5	Strongly Willing

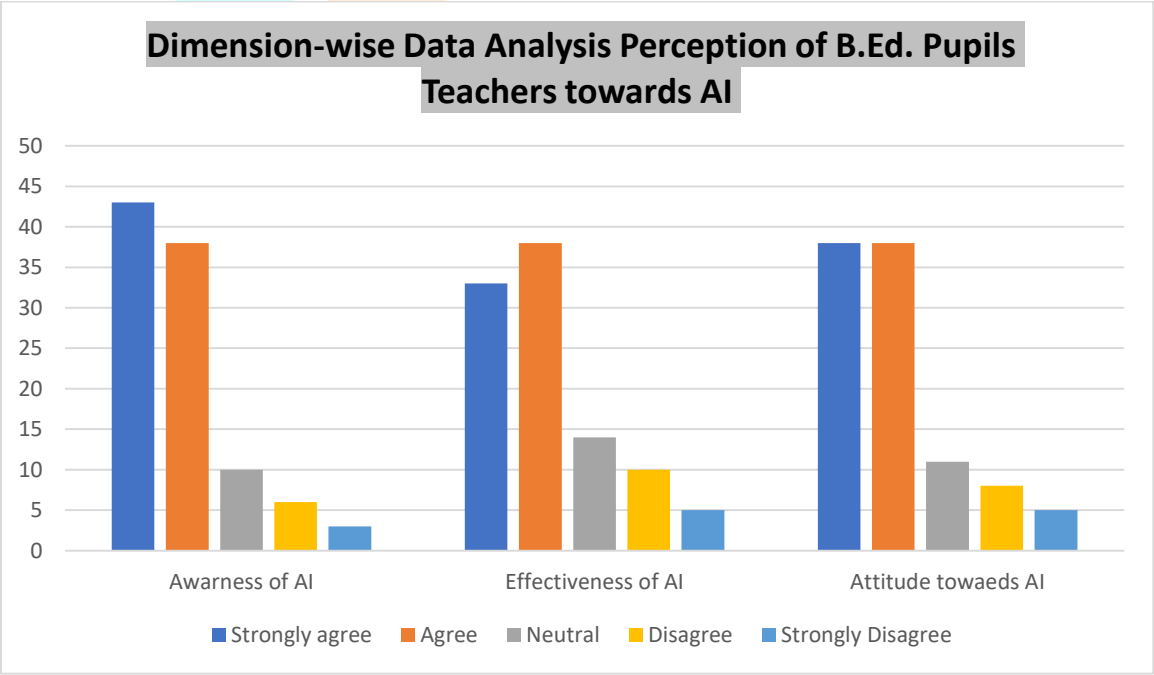
This table clearly presents the attitude of B.Ed. pupils teachers towards Artificial Intelligence in the context of three basic dimensions namely Awareness, Effectiveness and Attitude. The percentage distribution of Strongly Agree, Agree, Neutral, Disagree and Strongly Disagree shows that the overall attitude of pupils teachers towards Artificial Intelligence is generally positive and encouraging, which confirms that the acceptance of modern educational technologies depends on the attitude and attitude of teachers (Teo, 2011).

In the first dimension i.e. Awareness towards AI, the rate of Strongly Agree is 43% and Agree is 38%, while Neutral is only 10%, Disagree is 6% and Strongly Disagree is 3%. These results clearly indicate that the majority of B.Ed. pupils teachers are aware of the concept of AI, its educational role and its application and see it as an understandable and acceptable educational technology. Research also proves that teachers' awareness and understanding play a fundamental role in the acceptance of any new technology (UNESCO, 2021; Russell & Norvig, 2021). The low rate of negative reactions strengthens the hypothesis that the overall awareness of AI among student teachers is at a positive level, which clearly supports the first hypothesis.

In the second dimension, the Effectiveness of AI, the rate of Strongly Agree is 33% and the rate of Agree is 38%, while Neutral is 14%, Disagree is 10% and Strongly Disagree is 5%. These results clearly indicate that pupils teachers consider AI as an effective tool for improving teaching, personalized learning, classroom management, student performance, and academic quality. Previous research studies also

confirm that AI-based educational systems improve teaching quality and make the learning process more effective (Holmes et al., 2019; Zawacki-Richter et al.,2019). These results provide a strong basis for the hypothesis that student teachers consider AI as an effective and useful educational technology, which clearly supports the second hypothesis.

In the third dimension, Attitude towards AI, the rate of both Strongly Agree and Agree is 38%, while Neutral is 11%, Disagree is 8%, and Strongly Disagree is 5%. These data show that the emotional, intellectual and practical attitudes of B.Ed. pupils teachers towards AI are positive and they are mentally prepared to use AI in their teaching process in the future. The Research paper also shows that positive attitudes and acceptance are key factors for the successful implementation of new educational technologies (Selwyn, 2019; Teo, 2011). These results strongly support the hypothesis that student teachers do not perceive AI as a substitute for teachers but as a supportive educational resource. Overall, the analysis of the table shows that the positive trend is significantly dominant in all the three dimension awareness, effectiveness and attitude which provides a strong scientific basis for the main hypothesis of this study that the overall view of B.Ed. pupils teachers is positive towards AI and they accept AI as a supportive, useful and effective educational technology in the teaching process. These results are consistent with the fact that AI is being seen as a supportive system in modern education and not as a replacement for human teachers (UNESCO, 2021; Holmes et al., 2022). Thus, this table clearly supports and verifies all the main hypotheses of the research.



Finding ,conclusion & Educational Implication

The findings of this research paper clearly indicate that the overall view of B.Ed. pupils teachers towards Artificial Intelligence is positive, constructive and encouraging. The data obtained from the table shows that positive trends prevail in all three dimensions, namely awareness, effectiveness and attitude, which confirms that pupils teachers are not only aware of the concept of AI but also consider it as an effective and supportive technology for the educational system. The fact that mostly pupils teachers are aware of the educational role of AI after awareness is evidence that modern digital consciousness is developing among pupils teachers, which is a positive significant for educational progress (UNESCO, 2021). After the effectiveness, AI is considered a tool for improving teaching processes, classroom management, personalized learning and student performance, which supports the fact that AI is being seen as a practical and applicable educational technology (Holmes et al., 2019; Zawacki-Richter et al., 2019). Similarly, the positive emotional and intellectual orientation of pupils teachers after the behavior shows that they are mentally and professionally prepared for the use of AI in the teaching process in the future, which is a basic condition for the successful implementation of new educational technologies (Teo, 2011; Selwyn, 2019). Overall, the results prove that all the basic hypotheses of the research are strongly supported by

empirical data and it becomes clear that B.Ed. pupils teachers do not see AI as a substitute for the teacher but as an educational support system. The overall conclusion of this study is that artificial intelligence has become an inevitable reality in the modern education system and the view of B.Ed. pupils teachers seems to be consistent with this reality.

According to this research paper educational implications of this research are very important and far-reaching as this study indicates that Artificial Intelligence is not just a technological innovation but it is also an educational revolution that is providing a new direction to the entire system of the teaching and learning process. The research shows that since B.Ed. pupils teachers have a positive awareness, high perception of effectiveness and constructive attitude towards AI, it is a golden opportunity for educational institutions to translate this trend into systematic educational policy and curriculum structure. Including AI as an integral component in teacher training institutions will help to make future teachers compatible with the requirements of the digital age and will help to make the teaching process modern, effective and learner-centered (UNESCO, 2021). This research paper also suggests that AI can be used to advance areas such as personalized learning, automated assessment, learning analytics, and digital content creation, which can improve both educational quality and equity (Holmes et al., 2019; Zawacki-Richter et al., 2019).

An important aspect of the educational implications is that the use of AI does not eliminate the role of teachers but rather strengthens them as guides, facilitators, and intellectual mentors. This research paper reinforces the idea that the teacher of the future will not be a mere provider of information, but will play a vital role in promoting students' critical thinking, creativity, and ethical values in conjunction with technology (Selwyn, 2019). Moreover, the educational inclusion of AI opens new doors for teachers'continuous professional development (NEP,2020) where continuous training, development of digital skills, and technological pedagogy become indispensable (Holmes et al., 2022).

References

1. Baker, R. S., & Smith, L. (2019). Educ-AI-tion rebooted? Exploring the future of artificial intelligence in schools and colleges https://www.scirp.org/reference/referencespapers?referenceid=3722872
2. 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
3. Dede, C., Richards, J., & Saxberg, B. (2019). Learning engineering for online education: Theoretical contexts and design-based examples. https://journals.sfu.ca/jalt/index.php/jalt/article/view/159
4. Holmes, W. (2021). Artificial intelligence and education: The state of the field. British Journal of Educational Technology, 52(5), 1952–1964 https://www.researchgate.net/publication/369288544_Artificial_intelligence_in_education
5. Holmes, W., Bialik, M., & Fadel, C. (2019). Artificial intelligence in education: Promises and implications for teaching and learning. Center for Curriculum Redesign. https://www.researchgate.net/publication/332180327_Artificial_Intelligence_in_Education_Promise_and_Implications_for_Teaching_and_Learning
6. Johnson, L., Becker, S. A., Cummins, M., Estrada, V., Freeman, A., & Hall, C. (2016). NMC Horizon Report: 2016 Higher Education Edition. The New Media Consortium. https://www.learntechlib.org/p/171478/
7. Luckin, R. (2018). Machine learning and human intelligence: The future of education for the 21st century. https://eric.ed.gov/?id=ED584840
8. Luckin, R., Holmes, W., Griffiths, M., & Forcier, L. B. (2016). Intelligence unleashed: An argument for AI in education. https://static.googleusercontent.com/media/edu.google.com/en//pdfs/Intelligence-Unleashed-Publication.pd

9. OECD. (2021). Artificial intelligence in education: Challenges and opportunities for sustainable development. https://unesdoc.unesco.org/ark:/48223/pf0000366994.locale=en
10. Pedro, F., Subosa, M., Rivas, A., & Valverde, P. (2019). Artificial intelligence in education: Challenges and opportunities for sustainable development. https://www.scirp.org/reference/referencespapers?referenceid=3599962
11. Roll, I., & Wylie, R. (2016). Evolution and revolution in artificial intelligence in education. International Journal of Artificial Intelligence in Education, 26(2), 582–599. https://doi.org/10.1007/s40593-016-0110-3
12. Russell, S., & Norvig, P. (2021). Artificial intelligence: A modern approach (4th ed.). Pearson Education. https://aima.cs.berkeley.edu/
13. Selwyn, N. (2019). Should robots replace teachers? AI and the future of education. Polity Press. https://www.scirp.org/reference/referencespapers?referenceid=3627290
14. UNESCO. (2021). AI in education: Guidance for policy-makers. https://discovery.ucl.ac.uk/id/eprint/10130180/1/Miao%20and%20Holmes%20-%202021%20-%20AI%20and%20education%20guidance%20for%20policy-makers.pdf .
15. Williamson, B., Eynon, R., & Potter, J. (2020). Pandemic politics, pedagogies and practices: Digital technologies and distance education during the coronavirus emergency. Learning, Media and Technology, 45(2), 107–114. https://doi.org/10.1080/17439884.2020.1761641
16. Woolf, B. P. (2010). Building intelligent interactive tutors: Student-centered strategies for revolutionizing e-learning. https://www.scirp.org/reference/referencespapers?referenceid=3797875
17. Zawacki-Richter, O., Marín, V. I., Bond, M., & Gouverneur, F. (2019). Systematic review of research on artificial intelligence applications in higher education. International Journal of Educational Technology in Higher Education, 16(39), 1–27. https://doi.org/10.1186/s41239-019-0171-0