Attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education

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Abstract:
The purpose of the paper was to study the attitude of B. Ed. Teacher Trainees towards the use of Artificial Intelligence in Education. In this regard, convince method of sampling has been used to collect the data among the teacher trainees studying in Teacher Training Institutes from Nagpur city. 3-point Likert scale prepared by investigator was administered to the respondents to collect the data. The result of the study indicates that there is a highly positive incline of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education.

Index Terms: Artificial Intelligence, Attitude, B. Ed. Teacher Trainees, Teacher Training Institutes

INTRODUCTION

Technology in education is important because it helps today's teachers to integrate new technologies and tools into their classroom. Teachers are able to upgrade and improve the learner-centeredness of their classroom. It enables teachers to engage their students in unique, innovative and equitable ways.

The world today is rapidly progressing on the road to utilization, with the ever-increasing number of technical applications that are used to communicate and pass on knowledge. In a traditional classroom, knowledge acquisition is limited to the information the teacher has and that which they can access. However, connecting students to the outside world enhances their ability to construct new knowledge. With the rapid progress in technology and the advancement in learning systems, it is now embraced by the masses. The introduction of Artificial Intelligence in teaching-learning process is the great achievement in the education field. Today's B. Ed. Teacher trainees are the tomorrow's teachers and they are the nation builders too. So, studying about what they think about this new technological advancement and use of AI in education was the main purpose of this study.

TEACHER TRAINING PROGRAMS

Programs offered by higher education institutes to prepare prospective teachers to obtain a formal qualification in teaching referred as Teacher training programs. It is the process of preparing and equipping teachers with the knowledge, skills, attitudes and competencies required to effectively teach students in various educational settings and support student learning. Teacher training is essential for ensuring the quality of education and enhancing the learning outcomes of students. These programs typically include pedagogical, instructional and classroom management skills. Teacher training programs are based on actual and evolving needs of both teachers and learners. There should be a clear link between the curriculum, teaching pedagogies, needs of students and training provided to teacher and continued teacher support. Teachers and other education personnel should receive periodic, relevant and structured training according to needs and circumstances of the society. Now, with the changing needs of the society, teachers also need to upgrade themselves by acquiring technology-oriented pedagogies and teaching skills.

REVIEW OF RELATED LITERATURE

Ahmet Gocen and Fatih Aydemir conducted the study on Artificial Intelligence in Education and Schools. The results show that schools and teachers will have new products, benefits and also face drawbacks with the arrival of AI in education. The findings point out some suggestions for use of AI and prevention of possible problems.

K. Zhang and A.B. Aslan studied AI technologies for education: Recent research & future directions. This article reports the current state of AIEd research, highlights selected AIEd technologies and applications, reviews their proven and potential benefits for education, bridges the gaps between AI technological innovations and their

educational applications, and generates practical examples and inspirations for both technological experts that create AIEd technologies and educators who spearhead AI innovations in education.

Chen, L., Chen, P. and Lin, Z. 2020. Conducted the study on Artificial Intelligence in Education: A Review The purpose of this study was to assess the impact of Artificial Intelligence (AI) on education. The study ascertained that AI has extensively been adopted and used in education, particularly by education institutions, in different forms.

STATEMENT OF THE PROBLEM

Attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education.

OPERATIONAL DEFINITIONS

Artificial Intelligence -

Artificial Intelligence (AI) is the simulation of human intelligence processes by machines, especially computer systems. Artificial intelligence involves using computers to do things that traditionally require human intelligence.

B. Ed. Teacher Trainees -

B. Ed. teacher trainees are the students who are pursuing a two-year undergraduate degree program that prepares them to become a teacher.

Attitude-

1. An attitude is a tendency to react favorably or unfavorably towards a designated class of stimuli.
2. An attitude is a dispositional readiness to respond to certain institutions, persons or objects in a consistent manner which has been learned and has become one's typical mode of response.

OBJECTIVES OF THE STUDY

The objectives of the study were-

1. To study the attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education when Instruction through AI is concern.
2. To study the attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education regarding Challenges for students.
3. To study the attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education regarding Challenges for teachers.

SCOPE AND LIMITATIONS

1) Present study was limited to B. Ed. Teacher Trainees only.
2) Present study was limited to Nagpur city only.
3) Present study was limited to the academic session 2022-2023 and 2023-2024 only.
4) Present study was limited to attitude towards use of Artificial Intelligence in education only.

SAMPLING TECHNIQUE

The sample of the study consisted of 100 students pursuing B. Ed. Degree from the Educational Institutes from Nagpur city for the session 2022-2023 and 2023-2024. The sample included both male and female teacher trainees. The institutes were selected purposively offering two years B. Ed. Degree Program. The students were belonging to the same socio-economic background.

METHODOLOGY AND TOOLS

The Survey method was used for the present study.

DATA COLLECTION TOOL

The 3-point Likert Scale (Agree, Undecided and Disagree) was prepared by the investigator to study the attitude of B. Ed. teacher trainees towards use of Artificial Intelligence in Education. This attitude scale was based on 3 aspects related to use of AI; namely, Instruction through AI, Challenges for students and Challenges for teachers. The Attitude Scale was administered to B. Ed. teacher trainees through Google form and their responses were collected accordingly.

ANALYSIS AND INTERPRETATION OF THE DATA

The attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence gets obtained by administering 3-point Likert scale prepared by investigator having responses Agree, Undecided and Disagree. An Attitude scale was consisted of 18 statements which were categorized into 3 aspects related to use of AI; namely, Instruction through AI, Challenges for students and Challenges for teachers. An Attitude scale was consisting of mixed statements i.e. positive and negative statements. The scale was administered through Google form. The obtained data was analyzed for each statement separately by computing percentage for frequencies. The results are presented in Table-1.

Table 1: Attitude of B. Ed. Teacher Trainees towards use of AI in Education

Sr. No.	Statements	Agree	Undecided	Disagree
	Instruction through AI			
1.	Artificial Intelligence (AI) provides learners a richer and more rewarding learning experiences.	85.7%	9.1%	5.2%
2.	AI provides students with practical or experiential learning experiences using virtual reality, 3-D gaming and simulation.	90.9%	9.1%	-
3.	Teaching-learning process becomes more interesting, interactive and effective with AI.	83.1%	7.8%	9.1%
4.	Preparation of Lessons, Projects, presentations become easy with AI.	87%	11.7%	1.3%
5.	Translation from one language to another, text to video becomes easy with AI.	89.6%	6.5%	3.9%
6.	AI would shape students' imagination and creativity.	76.6%	11.7%	11.7%
7.	AI improves the instructional quality.	71.4%	19.5%	9.1%
8.	Use of AI saves time and efforts.	85.7%	7.8%	6.5%
	Challenges for Students			
9.	Because of AI, students are unwilling to engage in the knowledge processing & inquiry processes that facilitate deep learning.	57.1%	23.4%	19.5%
10.	AI may cause ethical issues regarding data security and privacy.	74%	22.1%	3.9%
11.	AI may cause biases and discrimination in education.	42.9%	32.5%	24.7%
12.	Ensuring equal access to AI-powered education for all students will be a challenge.	68.8%	19.5%	11.7%
13.	AI causes degradation of academic integrity.	50.6%	35.1%	14.3%
14..	Emotional, physical, social development of learners is not possible with AI.	62.3%	16.9%	20.8%
	Challenges for Teachers			
15.	Preparing teachers for an 'AI-powered education' is a great challenge.	77.9%	14.3%	7.8%
16.	Advancement in AI may cause fewer jobs available for educators.	61%	23.4%	15.6%
17.	Teachers may focus too much on the emerging AI technologies rather than learning itself.	58.4%	24.7%	16.9%
18.	In future, AI will replace teachers.	33.8%	23.7%	42.5%

Objective 1: To study the attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education when Instruction through AI is concern.

From the above tabulated data, it is observed that, 85.7% respondents agreed that Artificial Intelligence (AI) provides learners a richer and more rewarding learning experiences. 90.9% agreed upon AI provides students with practical or experiential learning experiences using virtual reality, 3-D gaming and simulation. 83.1% thought that with the use of AI, teaching-learning process becomes more interesting, interactive and effective. Above 85% agreed that preparation of lessons, projects, presentations and translation from one language to another, text to video becomes easy with AI. 76.6% respondents think AI would shape students' imagination and creativity. 71.4% agreed that AI improves the instructional quality. 85.7% think that Use of AI saves time and efforts.

Discussion:

B. Ed. Teacher trainees reacted favorably towards this aspect of AI. This may cause because, for the teacher it becomes easy to prepare lessons, projects, presentations and again translating text from one language to another, translating from text to video becomes easy using various AI-enabled tools. AI fosters students' imagination and creativity by improving instructional quality and it saves time and efforts of both teachers and students.

Objective 2. To study the attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education regarding Challenges for students.

From Table-1, it is observed that, 57.1% respondents feel that because of AI, students are unwilling to engage in the knowledge processing & inquiry processes that facilitate deep learning. 74% respondents think that AI may cause ethical issues regarding data security and privacy. Very few i.e. 42.9% think that AI may cause biases and discrimination in education. For 68.8% respondents, ensuring equal access to AI-powered education for all students

will be a challenge. 50.6% think that AI causes degradation of academic integrity. 62.3% agreed upon the statement that emotional, physical, social development of learners is not possible with AI.

Discussion:

There are mixed reactions of B. Ed. Teacher Trainees as far as the issues related to challenges for students are concern. Because, with the overuse of AI, it may happen that students become unwilling to engage in the knowledge processing & inquiry processes that facilitate deep learning. The increasing reliance on AI in education can lead to technology overdependence, which may have several unintended consequences. Again, data security and privacy are the major issues. AI may cause biases and discrimination in education, because all students may not get benefitted with the AI facilities as far as cost and technical issues are concern. The introduction of AI in the classroom might inadvertently minimize human interaction, which is a crucial part of the learning process. This reduction in face-to-face communication can negatively affect the emotional, physical and social development of students.

Objective 3. To study the attitude of B. Ed. Teacher Trainees towards use of Artificial Intelligence in Education regarding Challenges for teachers.

From Table-1, it is observed that, preparing teachers for an 'AI-powered education' is a great challenge for 77.9% respondents. 61% feel that advancement in AI may cause fewer jobs available for educators. 58.4% think that teachers may focus too much on the emerging AI technologies rather than learning itself. There is mixed reaction of the respondents about the statement that in future, AI will replace teachers. Only 33.8% agreed to this and 42.5% do not think so.

Discussion:

Preparing teachers for this 'AI-powered education' is a great challenge because all the teachers are not equipped with this technological knowledge and training them will be a great challenge. In few cases, the implementation of AI in the education sector may lead to job displacement. Automation of various tasks related to teaching-learning process could potentially reduce the need for human roles. This could result in job losses and unemployability. For the teachers, excessive use of this technology may cause overdependence which is harmful for improvement of their teaching skills. Though AI is transforming education, it does not replace the need for human teachers.

CONCLUSION

As the AI technology is rapidly advancing and its application in education is expected to grow rapidly in the near future, it is necessary to find out what the future teachers think about this new technology. Keeping this in mind, investigator conducted the survey and tried to study the attitude of B. Ed. Teacher trainees towards the use of this AI technology in Education. The study reveals that the Teacher trainees had favorable attitude towards its use in Education. Only the problem is concerning about ethical issues regarding data security and privacy and some challenges for students and teachers.

In conclusion, though the use of AI technology rising in education, the role of teachers remains paramount. Teachers are often the primary source of inspiration and guidance for students, fostering a love for learning and nurturing their academic growth and physical, emotional and social development. They bring a human touch to the classroom, understanding the unique learning styles, motivations and challenges of individual students. They can intuitively adjust classroom dynamics, create a nurturing and inclusive learning environment, and provide personalized and emotionally responsive feedback. This level of emotional intelligence and personalization is something that AI lacks.

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