

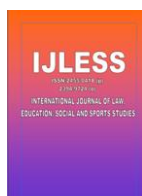


A Study on AI Awareness among Student teachers of B.Ed. Colleges of Mysore District

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ABSTRACT

Like in many other areas, artificial intelligence has been applied in education, which has been influenced by various factors and changes over the last few decades. Financial pressures on universities associated with the increased number of students and larger staff and operating costs, partly caused by the democratization of higher education, make the use of AI technology very attractive. When it comes to content and teaching, the application of AI can contribute to its customisation. Taking into account the heterogeneity among students, a better understanding of their learning requirements is necessary and therefore the educational content to be personalised to their needs.

The increased significance of artificial intelligence (AI) and the possibilities to implement it in teacher education can be identified in contemporary conditions. At the same time, one cannot neglect the importance of student teacher perceptions regarding it, since they represent the final users of educational services. Education is one of the many sectors that has come under the influence of artificial intelligence. In this paper, the focus was on student teachers' awareness of AI applications in the teacher education process. This study was undertaken to study the level of AI awareness among the teacher trainees. The data was collected by self made questionnaire form eight different B.Ed. Colleges of Mysore District in Karnataka. To analyze the data Frequencies, Percentage, Mean, Standard Deviation (S.D.) and 't' test were used. Result revealed that there was overall the level of AI awareness was poor, there was a significant difference in the level of AI awareness among the male and female teacher trainees and there was a significant difference between the urban and rural teacher trainees.

The essential elements of every system of teacher education are teacher candidates. We cannot anticipate any meaningful changes from the teacher education system unless they receive training. AI is a potent instrument for problem solving, conceptual growth, and critical thinking that greatly facilitates teacher students' learning.

Keywords: AI, Awareness, teacher trainees, B.Ed. Colleges.

Introduction

Like in many other areas, artificial intelligence has been applied in education, which has been influenced by various factors and changes over the last few decades. Financial pressures on universities associated with the increased number of students and larger staff and operating costs, partly caused by the democratization of higher education, make the use of AI technology very attractive.

When it comes to content and teaching, the application of AI can contribute to its customisation. Taking into account the heterogeneity among students, a better understanding of their learning requirements is necessary and therefore the educational content to be personalised to their needs.

Another area of education that was affected by artificial intelligence relates to student assessment. The development of AI technology has enabled partial or full automation of assessment practice, whereby it can be used for generating tasks, identifying adequate peers for grading, and automatically scoring student work (Swiecki et al. 2022). For example, there are systems called auto-graders, usually applied for the assessment of written tasks, and in mathematics and computer sciences, that are capable not only of scoring students' answers but also of diagnosing the type of error and suggesting its correction

Rationale of the Study

The biggest obstacle facing teacher education today is producing high-calibre educators for a world that is constantly changing. The essential elements of every system of teacher education are teacher candidates. We cannot anticipate any meaningful changes from the teacher education system unless they receive training. AI is a potent instrument for problem solving, conceptual growth, and critical thinking that greatly facilitates teacher students' learning. AI that works well helps solve issues that arise during regular classroom instruction. The goal of the current study was to ascertain how knowledgeable certified student teachers were regarding AI.

Literature Review

Artificial intelligence is already performing some of the tasks that professors used to perform at a number of educational institutions today. With the help of artificial intelligence, teachers can complete a variety of administrative duties, such as the easier evaluation and assessment of student work, which improves student performance and raises the bar for teaching (Chen et al., 2020; Humble & Mozelius, 2019; Langley, 2019).

Artificial Intelligence in Education (AIED) is one such direction. AIED encompasses a variety of technologies, such as personalized AI-driven turn-by-turn conversational and teaching systems, research education that uses AI, student writing processing, intelligent play assistants based on learning environments, and chat bots to connect students and teachers and make learning easier for students. It also covers how students use computers, how schools generally operate, how students use smart phones after school, and more. Apart from the aforementioned, AIED can help develop innovative teaching and learning strategies (Holmes et al., 2019).

The idea of artificial intelligence and the technologies that underpin it are unfamiliar to many educators today. They place a little higher value on technical and socio-cultural understanding of AI than they do on purely practical skills. The curriculum development in Hong Kong's colleges and universities can be handled by artificial intelligence. Self Determination Theory (SDT) and the four fundamental approaches to curriculum planning—content, product, process, and practice were utilized as theoretical foundations to explain the goals and findings of the study when investigating the artificial intelligence approach to curriculum development (Chiu & Chai, 2020).

The following actions should be made, according to UAE scientists, to improve the effectiveness of implementing artificial intelligence in education: develop artificial intelligence-based educational software to raise teacher qualifications; develop AI-based curricula for all educators; supply accurate

databases in all areas of education, including human resources; and establish a learning environment that strengthens the contribution of AI applications to teachers' professional development; connect databases worldwide to change the career paths of educators (Al-Zyoud, 2020).

Statement of the Problem

The present study was stated as “A study on AI Awareness among Teacher Trainees of B.Ed. Colleges of Mysore District”.

Objectives of the Study

The study was conducted to achieve the following objectives:

1. To study the level of AI awareness among the student teachers.
2. To compare the level of awareness about AI among male and female student teachers.
3. To compare the level of AI awareness among rural and urban student teachers.

Hypotheses

1. There would be poor level of AI awareness among the student teachers.
2. There is no Significance difference in the level of AI awareness among the male and female student teachers.
3. There is no Significance difference in the level of AI awareness among the rural and urban student teachers.
4. There is no Significance difference in the level of AI awareness among the Govt. and Private College student teachers.

Methodology

Method:

The present research was a descriptive survey type study.

Sampling

The present study, all the student teachers of B.Ed. colleges of Mysore district were the population and 100 student teachers of B.Ed. colleges of Mysore district were selected purposively.

Tool Used

For collection of data on awareness of student teachers, researcher employed self made questionnaire form. It included information and knowledge about AI. In questionnaire all total fifty questions were pioneer and each question was carrying one mark. To calculate the level of awareness related to AI, five categories were used. Based upon the scores of questionnaire, categories were 1-10 very poor, 11-20 poor, 21-30 average, 31-40 good and 41-50 very good.

Procedure of Data Collection:

After preparing the questionnaire form, the researcher visited eight different B.Ed. in Mysore districts and the questionnaire was administered personally for each student teacher.

Statistical Techniques

The collected data were analyzed through application of required statistical techniques i.e. Frequencies, Percentage, Mean, Standard Deviation (S.D.) and “t” test.

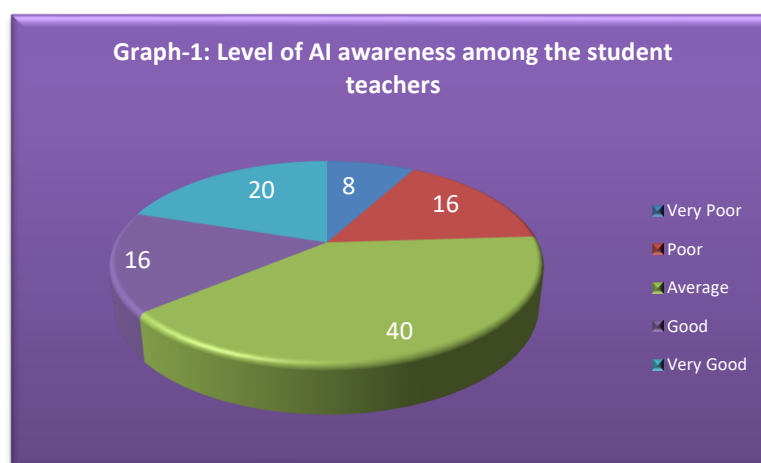
Analysis and Interpretation:

The first objective was to study the level of AI awareness among the student teachers. The result has been shown in the following table.

Table- 1 Level of AI awareness among the student teachers

Level of AI Awareness	Frequency	Percentage (%)
Very Poor	8	8
Poor	16	16
Average	40	40
Good	16	16
Very Good	20	20
Total	100	100

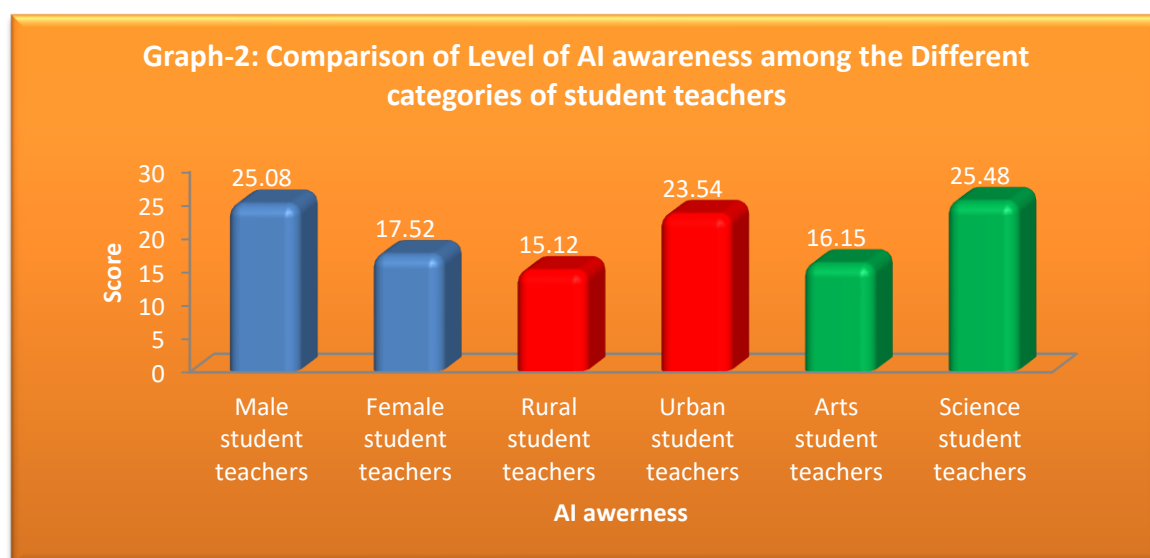
Table-2 shows that 4% student teachers having very poor, 20% having poor, 50% having average, 6% having good and 20% having very good level of AI awareness. Overall the level of AI awareness is poor among the student teachers.



The second objective was to compare the level of awareness about AI among male and female student teachers. The result has been shown in the following table.

Table-2: Level of AI awareness among the Different categories of student teachers.

Variable	Gender	N	Mean	S.D.	Df	t'-value	Level of sig.
AI awareness	Male	50	25.08	7.23	98	7.541	Significant at 0.05 level
	Female	50	17.52	6.14			
	Rural	50	15.12	8.15	98	3.458	Significant at 0.05 level
	Urban	50	23.54	6.45			
	Arts	50	16.15	10.12	98	4.222	Significant at 0.05 level
	Science	50	25.48	9.05			



Above table and graph shows that the computed value of “t” i.e. 7.541 is bigger than the critical table value of “t” with 98 degrees of freedom at five percent and one percent level of significance (1.97 and 2.59) respectively. Therefore, there is a significant difference in the level of AI awareness among the male and female student teachers. This result leads to the conclusion that the male student teachers are little more aware in contrast to female student teachers. Chen et al., 2020; Humble & Mozelius, 2019; Langley, 2019 study supports above result

Above table and graph shows that the mean value of urban student teachers in relation to AI awareness is higher than rural student teachers. The computed value of “t” is 3.458 which is greater than the critical table value. Hence, it is significant up to both 5% and 1% level of significance. Therefore, the result depict that there is a significant difference between the urban and rural student teachers. This result leads to the conclusion that the urban student teachers are little aware in contrast to rural student teachers. The obtained result is quite logical as urban teachers get facilities either formally or no formally related to AI. The study done by Al-Zyoud, 2020 depict that there is level awareness is depends the area/Locality of students.

Above table and graph shows that the mean value of Science subject student teachers in relation to AI awareness is higher than Arts subject student teachers. The computed value of “t” is 4.222 which is greater than the critical table value. Hence, it is significant up to both 5% and 1% level of significance. Therefore, the result depict that there is a significant difference between the Arts and Science subject student teachers. This result leads to the conclusion that the Science student teachers are little aware in contrast to Arts subject student teachers. The obtained result is quite logical as Science teachers have more related to AI as they are science graduate. The research by Holmes et al., 2019 supports above result says that Artificial Intelligence in Education can help develop innovative teaching and learning strategies.

Major Findings

1. The student teachers had 8% having very poor, 16% having poor, 40% having average, 16% having good and 20% having very good level of AI awareness. Overall the level of AI awareness is poor among the student teachers.
2. There was a significant difference in the level of AI awareness among the male and female student teachers.
3. There was a significant difference between the urban and rural student teachers. The urban student teachers were little aware in contrast to rural student teachers.

4. There was a significant difference between the Arts and Science student teachers. The Science subject student teachers were little more aware in contrast to arts subject student teachers.

Conclusion

Without a doubt, artificial intelligence has developed into a potent instrument that is upending conventional teaching techniques. AI integration into the teaching and learning process could result in a more innovative and productive educational system. Since traditional teaching and learning methods will not be effective in the twenty-first century, teacher educators must be cognizant of artificial intelligence. AI-based teaching and learning will undoubtedly improve educational outcomes.

References

- [1]. Van Der Vorst, T., & Jelcic, N. (2019). Artificial Intelligence in Education Can AI bring the full potential of personalized learning to education?
- [2]. Goel, A. K., & Polepeddi, L. (2016). Jill Watson: A Virtual Teaching Assistant for Online Education. Georgia Tech Library.
- [3]. Grams, D. (2018). A Quantitative Study of the Use of "DreamBox Learning" and Its Effectiveness in Improving Math Achievement of Elementary Students with Math Difficulties. ProQuest LLC.
- [4]. Goel, A. K., & Polepeddi, L. (2016). Jill Watson: A Virtual Teaching Assistant for Online Education. Georgia Tech Library.
- [5]. Yang, J., & Zhang, B. (2019). Artificial Intelligence in Intelligent Tutoring Robots: A Systematic Review and Design Guidelines. *Applied Sciences*, 9(10), 2078.
- [6]. Colchester, K., Hagaras, H., Alghazzawi, D., & Aldabbagh, G. (2017). A Survey of Artificial Intelligence Techniques Employed for Adaptive Educational Systems within E-Learning Platforms. *Journal of Artificial Intelligence and Soft Computing Research*, 7(1), 47–64. De Gruyter Open Ltd