

# TEACHERS PERCEPTION ON ROLE OF ARTIFICIAL INTELLIGENCE IN HIGHER EDUCATION- AN EMPIRICAL STUDY

Dr. Udaya Shetty K. <sup>1</sup>, Vidyadhara Hegde S. <sup>2</sup>

<sup>1</sup> Associate Professor of Commerce, Government First Grade College & Centre for PG Studies, Thenkanidiyur, Udupi, Karnataka State -576106, India

<sup>2</sup> Associate Professor, MPM Government First Grade College of Professional and Business Management, Karkala 574104, India



## DOI

[10.29121/shodhkosh.v5.i7.2024.4998](https://doi.org/10.29121/shodhkosh.v5.i7.2024.4998)

**Funding:** This research received no specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

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## ABSTRACT

Since artificial intelligence became widespread, schooling has evolved. AI shows several ways to improve educational institutions and teaching. AI aids higher education institutions in homework evaluation, exam grading, research paper arrangement, visual communication enhancement, and administrative management. AI can recognize student characteristics and provide customized learning tools. AI deployment helps higher education institutions design curriculums that match student interests and real-life settings, making them more inventive. AI's strategic role in advancing educator skills and educational excellence is described above. Appropriate AI technology gives educators, students, and visionaries full control to alter education and improve human capacities. Multiple Indian and foreign studies show that higher education institutions gain much from artificial intelligence, despite its many uses. Academic institutions will use AI systems to teach students how to perceive AI. During this developing era, educators must learn how to incorporate this technology into their lessons. AI technology enables unique student engagement strategies that improve learning. Teachers must receive annual training and digital education to integrate AI academically. AI in higher education need positive teaching attitudes and encouragement to achieve. This empirical study examines higher education professors' views on AI integration. Research seeks to understand the organizational structure needed for higher education AI integration.

**Keywords:** Artificial Intelligence, Technology, Higher Education, Stakeholders, Automation



## 1. INTRODUCTION

The Indian education system has come a long way from those early days. The journey ahead promises exciting and eventful situations for the educators and educational institutions. Developments and changes in Indian education scenario during the last decade have created an entirely new set of challenges. The learning process, teaching methods and administration style of Indian Higher Education is likely to more technology oriented than person centric. The technology used in higher education system can be divided in two categories namely, teaching learning centered technology, administration centered technology. These technologies include the solution like e- learning, interactive and participative learning by using Artificial Intelligence and Machine Learning in the higher education sector. During the last decade, large number of higher educational institutions have computerized their routine regular activities and initiated collaborating AI with academic atmosphere. The Covid 19 pandemic has demanded the education sector to get shifted from the traditional system to the online mode to take care of the student community at the time of maintaining social distancing. In post pandemic period with experience of using technology in higher education as integral part of it, the educational stakeholders have realized the importance technological integration in higher education. As a result,

**How to cite this article (APA):** K, U. S., and S, V. H. (2024). Teachers Perception on Role of Artificial Intelligence in Higher Education- An Empirical Study. *ShodhKosh: Journal of Visual and Performing Arts*, 5(7), 1150–1155. doi: 10.29121/shodhkosh.v5.i7.2024.4998

Artificial Intelligence started to play a vital role in higher education institutions. Today Artificial Intelligence has become a buzzword in the field of education due to its multiple advantages like effectiveness, productivity and impact. The automated grading advantage of AI provide for nearly all kinds of multiple-choice and fill-in-the-blank testing which enable higher accuracy and save time. AI promotes Adaptive learning and timely support for students and for professors can improve instruction for students who may struggle with the subject matter. Smart data gathering, powered by intelligent computer systems, can change methods of how colleges interact with prospective and current students. In higher education institutions by using AI systems, software, and support, students can learn from anywhere in the world at any time. , AI may just replace teachers in some instances (for better or worse) But as an outcome of AI integration teachers role become more professional and dignified . Educational programs powered by AI are helping students to learn basic skills. Still, as these AI in HE grow and as developers learn more, will likely offer students a much wider range of services.

## 2. NEED FOR THE STUDY

"Our intelligence is what makes us human, and AI is an extension of that quality. " – Yann LeCun Professor, New York University.

Global adoption of education technology is changing teaching and learning. AI disrupts learning groups, teachers, and tutors by customizing their experiences. Higher education educators are crucial to democratization. Teachers must be adequately trained and supported to integrate technology into their teaching, especially in underserved areas. Teachers' involvement and interest in AI adoption and use can help AI succeed in education.

Though AI has many benefits, higher education teachers/professors have not fully embraced it. Most higher education teachers, especially in rural India, opposed AI integration. For reasons like difficulty learning or understanding technology and fear of job loss, higher education teachers resisted AI integration. Though teachers know their survival and success depend on adopting AI as part of their academic routine, some are still indifferent.

Various Indian and international studies examined different versions of AI and focused on systematic implementation of AI integrated systems in higher education. Teachers are crucial to the success of an AI-integrated academic system, but few studies have examined their perceptions. The present empirical study on higher education teachers' perceptions of AI is important in that context.

### 2.1. OBJECTIVES OF THE STUDY

- 1) To study the role of technology in Higher Education.
- 2) To examine the types of Artificial Intelligence technology facilities and recent developments of AI in education.
- 3) To highlight the challenges and various issues governing integration of AI with higher education.
- 4) To elucidate measures and strategies to develop positive attitude among teachers of higher education towards technology centric higher education.

### 2.2. HYPOTHESES

The present study attempts to test the following hypotheses:

- 1) There is a positive attitude of teachers about the integration of Artificial Intelligence in Higher Education
- 2) Artificial Intelligence does not contribute for effective academic process in higher education.
- 3) Artificial Intelligence does not play a significant role in the present higher education system.

### 2.3. SCOPE OF THE STUDY

The present study is not exhaustive and is restricted to surveying of teachers of higher education institutions in Udupi district of Karnataka State. The study attempts to understand attitudes and perceptions of teachers in higher education and undertakes investigations into the level of teachers' awareness on role of AI in education.

## 2.4. SAMPLE AND SAMPLE SIZE

Populations for the study are those teachers of higher education at different academic levels such as Assistant Professors, Associate Professors and Professors working in government and private colleges of Udupi Karnataka. Target respondents are the teachers in under graduate colleges. Sample consists of teachers working at colleges in Udupi district. The sample is selected using simple random sampling technique. Two percent of the total population is being chosen for the study which consists of equal proportion of teachers from government and private colleges.

## 3. METHODOLOGY

The study is basically empirical in nature relying heavily on Primary Data. The primary data has been collected through the "Questionnaire Method". Secondary data sources such as books, magazines and journal

## 4. REVIEW OF LITERATURE

Artificial intelligence (AI) is gaining significance in all the sectors of the economy and hence in higher education too. From last few years, this concept of "Artificial Intelligence in Education (AIED)" has experienced significant developments. This study attempted to find out how the concept of artificial intelligence can be applied in teaching and learning in higher education and impacts of using AI in higher education. It examines the learning implications of frequently evolving technologies on the methods and extent of learning as well as teaching. AI gives opportunities to higher education services to become easily accessible at an extraordinary speed, not only inside the class but also outside the classroom. The challenges in implementing AI in these institutes were also explored. This study will successfully deliver the profound information for educators and indepth knowledge for educational model building that will provide opportunities for growth in future (Suvrat Jain & Dr Roshita Jain,2019).

Artificial intelligence driven projects provide supportive input for the both students and educators. It causes the instructors to screen the performance of the students and empower them improve the guidance that they give for the students. AI frameworks in schools have changed the manner in which students find and cooperate with coordinated innovation. This has an impact to change educators as facilitators by giving students intuitive learning knowledge. Students can learn by the experimentation strategy without fear as AI bolsters in their learning and give help to their improvement. AI frameworks procured information will change the manner in which the schools discover, instruct and bolster understudies. In fact at some places it may even supplant educators in certain situations. It has turned into a learning buddy the helps students in their learning procedure (Sharma c.)

More specific application of AI in education, as evidenced form the different articles reviewed takes different forms. Chassignol highlighted the extensive application of AI in different areas, including content development, teaching methods, student assessment, and communication between teacher and students. For example, according to the study by Chassignol. AI has been extensively applied in curriculum development and content personal in action, teaching and pedagogical methods, assessment, and communication exchanges between teachers and students. Interactive learning (ILEs), which are used to manage performance and provide feedback and exchanges between teachers and students; Intelligent tutoring systems, such as ACTIVE Math, MATHia, Viper which have been used at different levels of the education system to by educators or instructors for different subjects at different levels of education, as well as extensive use in learning assessment to track performance and improve the available pedagogical tools.

### 4.1. DATA ANAYSIS AND INTERPRETATION

**Table 1 Teachers Satisfaction about the Positive Impact of AI on Higher Education**

| Res<br>pon<br>den<br>t | Level of satisfaction | Mea<br>n | s.d | Me<br>dia | Ma<br>n. | p.<br>valu |
|------------------------|-----------------------|----------|-----|-----------|----------|------------|
|------------------------|-----------------------|----------|-----|-----------|----------|------------|

|                             | Highly dissatisfied | Dissatisfied | Neither satisfied nor dissatisfied | Satisfied | Highly satisfied |      |      |      |      |            |
|-----------------------------|---------------------|--------------|------------------------------------|-----------|------------------|------|------|------|------|------------|
| Government College Teachers | 0.0%                | 26.5%        | 825.8%                             | 1445.2%   | 722.6%           | 3.84 | .860 | 4.00 | .176 | .860<br>NS |
| Private college teachers    | 13.2%               | 39.7%        | 39.7%                              | 1858.1%   | 619.4%           | 3.81 | .980 | 4.00 |      |            |
| Total                       | 11.6%               | 58.1%        | 1117.7%                            | 3251.6%   | 1321.0%          | 3.82 | .915 | 4.00 |      |            |

Source: Survey data

Table 1 shows that among the teachers of Government Colleges, 6.5% were dissatisfied with impact of AI on effectiveness in HE system, 25.8% were neither satisfied nor dissatisfied, 45.2% were satisfied, and 22.6% were highly satisfied. In the case of private College teachers, 3.2% of teachers were highly dissatisfied, 9.7% were dissatisfied, 9.7% neither satisfied nor dissatisfied, 58.1% were satisfied, and 19.4% were highly satisfied.

Man Whitney Test shows that there is significant difference between teachers of Government Colleges and Private Colleges in terms of their satisfaction about positive impact of AI, the values were  $3.82 \pm 0.915$ . Among Government College teachers' levels of satisfaction was  $3.84 \pm 0.86$  and that of private college teachers is  $3.81 \pm 0.98$ . When the teachers of Government and Private colleges are put together, teachers of both category of colleges were equally satisfied,  $p = 0.860 > 0.05$  where mean value is  $> 3$ .

The analysis of data clearly indicates that teachers of both Government and private colleges agree that use of Artificial Intelligence has positive impact on the effectiveness of academic system in Higher Education Institutions.

## 5. FINDINGS OF THE STUDY

Major findings of this empirical study are are

- Respondents of this study (92%) perceive that artificial intelligence is important for both teachers and students and application of such technologies encourages more flexible learning solutions for students without any limitation. They opine that with the help of artificial intelligence universities and colleges around the state are enrolling increased number of students due to increased flexibility and speed
- Both Government College teachers (80%) and Private college teachers (84%) agree that Artificial intelligence plays a significant role in improving academic performance of students of higher education. All teachers agree over the fact that AI is significantly impacting the students learning in higher education institutes.
- Among Government college teachers 12% are not supporting AI for the reason that it may cause job loss. 8% of Private college teachers opine that AI may cause job losses.
- All government and Private college teacher respondents (100%) agree that AI can be used for betterment of administration of higher education institution. They accept the quality of admission process, documentation and data management can be improved by the use of AI.
- Government college teachers (94%) and Private college teachers (82%) finds inadequate training is the reason for difficulties in successful implementation of AI driven higher education system.
- Government college teachers (72%) and Private college teachers (67%) identified a gap between service expected and service delivered in the process of AI integration in Higher education. They opine that some of the AI initiatives and programs are not adequate and suitable for the needs of students.

## 6. SUGGESTIONS

Based on the findings of this empirical study, the following suggestions are given for the effective AI integration in higher education

- For effective AI centric academic system, teachers in higher education need to adopt a blended approach in teaching. Teachers should supplement AI lessons, assist students who are struggling, and provide human interaction and hands-on experiences for students. Techniques like online supportive to offline or the flipped classroom model can be used for effective learning.
- Artificial intelligence program should offer students a way to experiment and to learn in a relatively judgment-free environment. AI is to be developed as perfect format for supporting this kind of learning. To be successful AI systems should enable students to learn by a trial-and-error method.
- There should be a comprehensive orientation program for students to guide and utilize the AI program designed at the higher education institution. Students need to understand the usability and scope of AI so that it can be used whenever needed.
- AI integration in higher education need adequate devices and strong internet connectivity. Higher education institutions should ensure that all these resources are accessible to all. In rural areas and backward areas populations may face challenges acquiring and maintaining devices, and connectivity issues persist. Institution should provide technology and supportive eco-system so that teachers and students can get consistent services of AI.
- AI expansion is forcing many jobs to become obsolete and thus an entire new skill sets will be required. Higher education institutes are required to train and develop their Staff to upgrade them and prepare to accept the change in order to face the challenge of the AI revolution.

## 7. CONCLUSION

The valuable IT resource helps business and service organizations achieve competitive advantages by optimizing organizational performance, improving service quality and operational efficiency, lowering operational costs, maximizing flexibility, boosting fee-based revenue potential, and enabling global expansion of business or service standards. Implementing AI technology in higher education reduces operating costs, improves learning quality, and boosts learner happiness. AI creates positive settings that help children learn basic traits and procedures. Artificial intelligence includes all technological improvements to knowledge acquisition, information management, and education. Despite their potential future, artificial intelligence systems in higher education require significant financial support and time commitments for proper training. Only when teachers actively build AI efforts can results stabilize. Planning institutions must study several factors to implement AI and create a teaching technique that benefits students, teachers, and facilities. AI customizes instructional content to student needs and learning levels. Through accurate deployment, AI affects management, teaching, and student learning in individual educational centers.

## CONFLICT OF INTERESTS

None.

## ACKNOWLEDGMENTS

None.

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