

## The Role of Artificial Intelligence on Higher Education in India and its Adoption in Higher Education Institution

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### ABSTRACT

Artificial Intelligence (AI) has rapidly advanced and is poised to transform various sectors, including education. This paper explores the potential impacts of AI on education, highlighting both opportunities and challenges. The analysis covers AI-driven personalised learning, intelligent tutoring systems, administrative automation, and the ethical considerations related to AI in education. By examining current implementations and future prospects, the paper aims to provide a comprehensive understanding of how AI can reshape educational landscapes, improve learning outcomes, and address existing challenges. This review paper attempts to broaden the body of knowledge concerning the impact of technological innovation on the education sector by presenting a systematic review along with a set of paths for future research. While recognizing AI as a positive disruptive force, we also highlight its limitations, potential threats to privacy and security, as well as ramifications of biases, misuse, and dissemination of misinformation. Finally, the article delineates the gaps in the research and formulates questions aimed at advancing knowledge in AI Education. This paper provides a comprehensive overview of the role of AI in higher education in India, highlighting both the potential benefits and the critical challenges. Further research and practical implementations will be crucial in navigating this transformative journey.

**Keywords:** AI IN EDUCATION, HIGHER EDUCATION TRANSFORMATION, DECISION MAKING, KNOWLEDGE SHARING, AI OPPORTUNITIES.

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### I. INTRODUCTION

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines designed to think and act like humans. In the context of higher education, AI encompasses a range of applications, from personalised learning and virtual classrooms to administrative automation and academic research. This paper examines the current state of AI in Indian higher education, the opportunities it offers, and the challenges that need to be addressed. The integration of Artificial Intelligence (AI) into higher education has the potential to bring new approaches to learning and teaching, but also poses challenges such as ethical concerns and job displacement. To address these challenges, efforts are being made to develop frameworks for the adoption of AI in education. This study investigates the role of AI in higher education in Indian universities, identifies dimensions of AI applications, explores factors

influencing the adoption of AI in higher education processes, and develops a framework for the adoption of AI applications by stakeholders in the higher education sector. The study uses a quantitative research design to collect data from students, academics, and management staff at different higher education institutions in India. The technological acceptance model, social cognitive theory, and human-computer interaction theory model are used to understand the factors that influence the acceptance and adoption of AI in higher education institutions in India.

### Strategies for Integrating AI in Higher Education

#### 1. Curriculum Enhancement

Integrating literacy into the curriculum involves both interacting with literacy programs and using literacy tools to support learning always there. Universities can offer specialised courses in

artificial intelligence and machine learning, but also use AI-powered learning tools to support learning in other subjects.

### 2. Adaptive Learning Technologies

Adaptive Learning Technology uses artificial intelligence to adapt learning content to students' needs. This technology analyses student performance and learning patterns to provide personalised learning opportunities, allowing each student to learn at their own pace and style.

### 3. AI-Powered Assessment Tools

Artificial Intelligence can be used to create intelligent assessment tools that provide quick feedback and streamline the process. This tool helps identify areas where students need improvement and can reduce the administrative burden on teachers.

### 4. Administrative Automation

Artificial intelligence can simplify many management tasks such as access, scheduling, and resource allocation. Chatbots and virtual assistants can improve operational efficiency by handling routine queries, assisting with the registration process, and managing schedules.

### 5. Research and Data Analytics

AI-driven data analytics can support academic research by providing powerful data, pattern recognition and modelling tools. AI can also help manage large data sets, analyse data, and create predictive analytics.

### 6. Virtual Learning Environments

Virtual Learning Environment (VLE) developed by artificial intelligence can provide effective and interactive learning. AI can power virtual labs, simulations, and augmented reality applications to enhance hands-on learning.

## NEED FOR THE STUDY

Artificial Intelligence (AI) is transforming various sectors, and higher education in India is no exception. This paper explores the multifaceted impact of AI on higher education in India, focusing on the opportunities it presents and the challenges it poses. The analysis encompasses the implementation of AI-driven tools in educational institutions, the enhancement of teaching and learning processes, administrative efficiencies, and the broader implications for educators and students. Furthermore, the paper discusses the challenges, including ethical concerns, data privacy issues, and the digital divide, and provides recommendations for effectively integrating AI in higher education.

## OBJECTIVES OF THE STUDY

- [1] To study the impact of AI on higher education.
- [2] Investigate the impact of AI on the learning and teaching process.
- [3] To predict the impact of AI on future careers of graduates

## ANALYSIS FOR THE STUDY

This research paper uses objectivism as a philosophy, as the data collected are based on perceptions, feelings, and experiences. Objectivism entails realism, and ontologically, it considers social entities as physical ones making the world independent. Therefore, this article uses the qualitative method to investigate the topic raised. The qualitative approach focuses on collecting data from people's experiences, views, and feelings dealing with AI in higher education and life in general.

The survey targeted participants worldwide via a link forwarded via emails, Facebook, and WhatsApp to ease participants' contribution. Sample size taken for the study is 119 respondents, taken through simple random sampling.

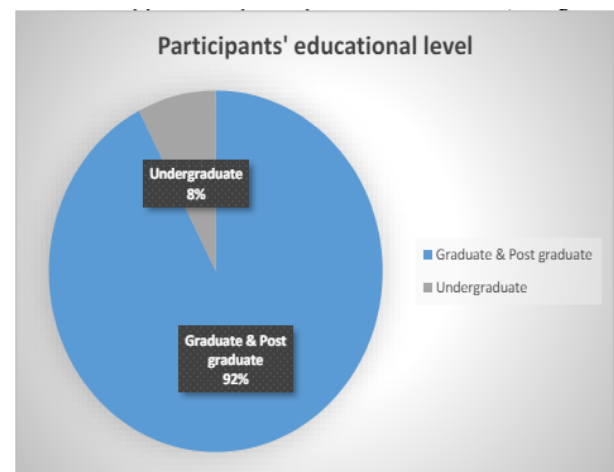


Figure 1. Participants' educational level

1.1 Primary data was collected from qualitative research and secondary data was collected from research of previous studies. The most common secondary sources are academic databases such as Web of Science, Scopus, ERIC, and Emerald, as well as grey literature.

1.2 Data analysis is deconstructing the data and separating the data into groups and codes. Later, interpreting the resulting content by creating a feeling and understanding and exploring the feeling will help explain the relationship. As a result, the main points and numbers were reconstructed and packaged and the data was restructured.

1.3 The results obtained from the research show that artificial intelligence will have a great impact in many areas such as learning and teaching in higher education. assessment and grading, skills students need, etc.

1.4 The impact of intelligence on learning and teaching. Previously, the results regarding the view that intelligence affects higher education show that most people agree that 83 people's "yes" ability is related to higher education. However, while 27 participants thought "maybe" that intelligence would not affect higher education, only 5 participants said "no".

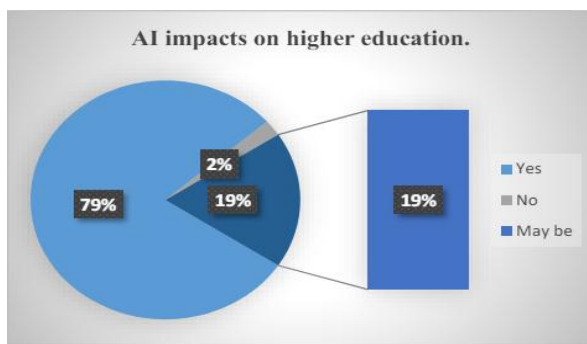


Figure 2. Impact of AI on higher education

Artificial intelligence is using better learning and teaching methods than humans in higher education. The survey results showed that 50 respondents agreed and 24 disagreed that AI uses better learning and teaching methods than humans; whereas 29 respondents disagreed, 10 disagreed, and 33 were neutral.

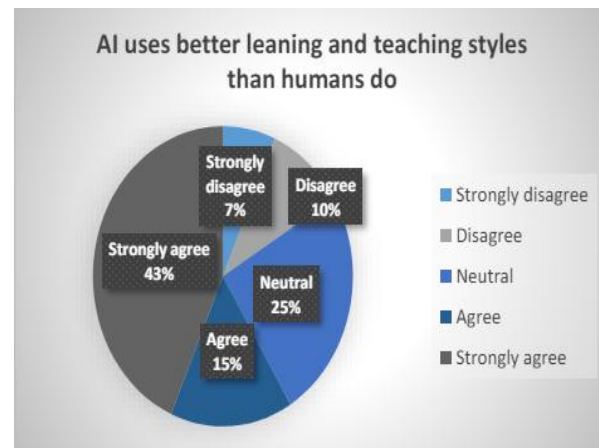


Figure 3. AI uses better learning and teaching styles than humans.

### Impact of AI on the assessment and classification process

The Effect of Artificial Intelligence on the Evaluation and Classification Process On the effect of Artificial Intelligence on the Evaluation and Classification, the majority of participants (74 years old) agree that Artificial Intelligence is more useful, more accurate, safer. However, 29 participants were neutral, 4 disagreed, and 17 disagreed.

### AI Impact on Future Careers of Graduates

The impact of Artificial Intelligence on the future careers of graduates Actually, how will Artificial Intelligence affect the future careers of university students? The research results showed that 60 participants found the impact positive and 6 participants found the impact negative. However, 49 people thought the impact would be positive or negative, and none of the participants said there would be no impact.

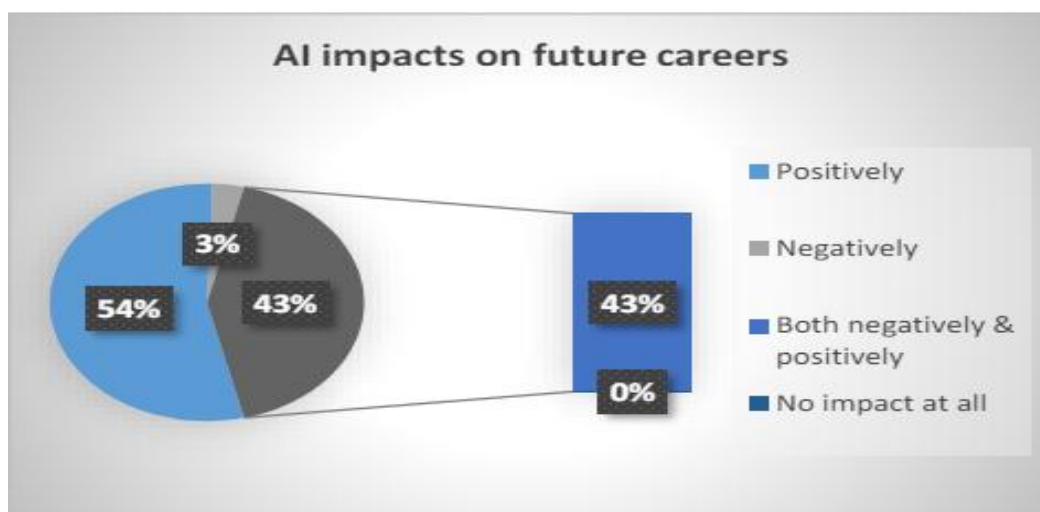


Figure 4. Impact of AI on future careers

## II. FINDINGS OF THE STUDY

### ● AI impact on the learning and teaching process

The impact of intelligence on higher education is clear; 79% of participants said "yes", 19% said "maybe", and only 2% said "no" to the idea. Similarly, regarding the effectiveness of artificial intelligence in education and training, the majority of participants believe that artificial intelligence is more effective than humans: 43% agree, 15% agree and 7% disagree, 10% agree.

### ● Impact of AI on the assessment and classification process

Effects of Artificial Intelligence on the assessment and classification process Similarly, regarding the effectiveness, accuracy and purpose of AI in assessing students, Results showed that most people agreed with it; 25% agree, 50% agree, 10% disagree, 4% disagree, and 1% neutral.

### ● AI Impact on Future Careers of Graduates

The last point concerns the impact of Artificial Intelligence on the future careers of students. According to the survey results, those who think it will have a negative impact on students' future careers are as follows: 54% think it will have a positive impact. By comparison, 43% have both positive and negative views, and 3% believe AI will have a negative impact on the workplace in the future.

## III. SUGGESTIONS

Based on the findings and issues raised in this research paper, the researcher recommends that applying AI in higher education is a requirement for all higher institutions. However, AI appliances suggest that academic staff should be well trained in using AI to equip learners with the required skills to face future care challenges. Similarly, the researcher recommends highlighting ethics and humanity first when teaching AI, as it threatens humankind without these values. Furthermore, privacy and dignity should be respected and protected by regulations and international laws, as AI can be used without limitations and violate human freedom. Finally, higher education institutions should control AI, make it serve and not destroy and dehumanise humankind.

## IV. CONCLUSION

AI has the potential to revolutionise higher education in India by enhancing learning experiences, improving administrative efficiency, and supporting academic research. However, realising these benefits requires addressing significant challenges related to ethics, data privacy, digital divide, resistance to change, and

infrastructure. By adopting a strategic approach that includes robust policy frameworks, capacity building, and collaborative efforts, India can harness the power of AI to transform its higher education landscape. This paper provides a comprehensive overview of the role of AI in higher education in India, highlighting both the potential benefits and the critical challenges. Further research and practical implementations will be crucial in navigating this transformative journey.

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