

THE ROLE OF ARTIFICIAL INTELLIGENCE IN THE HIGHER EDUCATION SYSTEM: UNDER NEP 2020

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Abstract

The National Education Policy (NEP) 2020 brings about a great change in educational technology in India, with use of Artificial Intelligence(AI) recognized as a central pillar of implementation of NEP 2020. Artificial Intelligence (AI) is increasingly transforming the education system in India, influencing teaching methodologies, learning experiences, and administrative operations across schools, colleges, and higher education institutions. These technologies not only enhance learning outcomes but also support teachers by reducing routine administrative tasks, enabling them to focus more on conceptual teaching and mentoring. Artificial Intelligence (AI) refers to the ability of technology, particularly computer systems to simulate human intelligence processes. AI is a rapidly developing field of technology that has the potential to significantly transform all social relationships. To develop innovative teaching and learning strategies in the field of education, artificial intelligence is now being made an effort in a variety of educational settings. The Qualitative research method was used in this study. The present study is mainly based on Secondary data(Google scholar, Shodhganga, e-book, Research Paper, Journal, World Bank Report). The main aim of this paper is to study the need of AI in the field of education and find out the different challenges therein. An attempt has also been made to explore AI from the perspective of NEP 2020. Finally, it explores recommendations and future prospects for the responsible and equitable implementation of AI in education, emphasizing inclusive access, ethical governance, and sustainable integration to ensure that AI contributes to overall educational development and empowerment.

Keywords: Artificial Intelligence, NEP 2020, Higher Education

INTRODUCTION

Artificial Intelligence (AI) refers to the simulation of human intelligence in machines that are designed to think and act like humans. The field of Artificial Intelligence is an interdisciplinary field in which psychologists, along with other scientists, study the ability of a computer, which if a human is visible, then we call it intelligence. Nowadays Artificial Intelligence is also being used a lot as a research tool in two areas computer simulation and expert system. The term, Artificial Intelligence is often used to describe machines that mimic "cognitive" functions that humans associate with the human mind, such as "learning" and "problem solving". AI that is inspired by humans combines cognitive and emotional intelligence components to understand and take into account human emotions along with other factors which making decisions(Naz, 2023). According to National Education Policy 2020, AI should be introduced to and included in the regular education curriculum. AI is being incorporated into the curriculum to improve efficiency, personalize learning, and streamline administrative processes so that teachers have more time and freedom to impart knowledge and flexibility. NEP 2020 asserts that technology, including AI, will fundamentally alter how children learn in schools(Borchetia,& Hazarika, 2024). AI is increasingly transforming the education system in India,

influencing teaching methodologies, learning experiences and administrative operations across schools, colleges, and higher education institutions. Artificial Intelligence(AI) has emerged as a transformative technology capable of addressing many of these long-standing challenges in education. AI refers to computer systems that can perform task traditionally requiring human intelligence, including learning, reasoning, problem-solving, decision-making, and language processing. In the educational context, AI enables intelligent automation, personalized learning experiences, predictive analytics, and enhanced administrative efficiency. In India, AI adoption is increasing across schools, college, universities, and EdTech platforms, providing solutions that range from adaptive learning platforms and intelligent tutoring systems to automated grading and student performance monitoring(Guguloth, 2025). The aim of NEP 2020 is to change the Indian education system and make it more significant in the need of 21st century. One of the focusing areas of this policy is to coordinate the AI with the education. The paper focuses on the role of Artificial intelligence in the higher education under NEP 2020. This policy emphasizes to the use of AI in the field of education so that it can enhance the teaching-learning process, increasing of access to education as well as quality of education(Das, 2024).

REVIEW OF RELATED LITERATURE

A review of related literature is very important in every kind of research. In this present, the researchers have also reviewed some literature. These are as follows:

Sarabuwala,S.Malahat,A.& Pandya,K.(2026) Was studied on the research paper, "*Theme: Artificial Intelligence in Education: A Boon and a Bane With Alignment to Indias National Education Policy 2020 (NEP-2020)*". This study examined the role of Artificial Intelligence in education through a mixed method investigation involving 169 students of classes VIII and IX and 28 teachers. A geography chapter was delivered through traditional instruction and subsequently reinforced using AI supported tools such as chatbots and interactive quizzes. Pre-and post-test, perceptions sceles and teacher surveyes and assessed learning outcomes, confidence, and attitudes. Findings indicate improve students engagement and confidence following AI integration, with a strong preference for a blended model combining teacher guidance and AI support. While AI enhance personalization and assessment efficiency, concerns emerged regarding digital devide, data privacy, ethical risks and over-dependence.

Bhakat,B.& Bera,B.(2025) Was studied on the research paper, "*Role of Technology and Digital Learning in NEP 2020 Implementation*". This study explores the ways in which digital tools and digital platforms are being utilized to support implementation of NEP 2020, in areas including school education, higher education, teacher education, assessment and content delivery. This study utilized a combination of descriptive and analytical methodology to analyze technology Integration detailed in the National Education Policy(NEP) 2020. This study combines relevant secondary research with some qualitative method was used. The result shows that technology holds immense testament to innovation, however the success of implementation relies on addressing infrastructure barriers, building digital literacy of educators, and supporting the development in inclusive content.

Guguloth,M.(2025) Was studied on the research paper, "*Impact of Artificial Intelligence on the Education System in India*". Artificial Intelligence has the potential to address long-standing challenges in the Indian education system, including large classroom sizes, disparities in access to quality education; and gaps in critical skills required for the modern workforce. Some significant methods are adopted for the research i.e. qualitative and quantitative under primary and secondary methodologies. Finally, it explores recommendations and future prospects for the responsible and equitable implementation of AI in education, emphasizing inclusive access, ethical governance, and sustainable integration to ensure that AI contributes to overall educational development and empowerment.

Borchetia,B.&Hazarika,M.(2024) Was studied on the research paper, "*Artificial Intelligence in Education: An Overview*". The main aim of this paper is to study the need of AI in the field of education and find out the

different challenges therein. This is a qualitative study. The researchers have prepared this research paper by reviewing various articles on Artificial Intelligence(AI). However, at present significant development has been seen in this field in the inclusion of machine learning and deep learning. Humorous strategies can be found to improve education through the application of AI. Artificial Intelligence has enormous potential, and the National Education Policy of 2020 encouraged it's incorporation into the educational system.

Das,B.(2024) Was studied on the research paper, "*The Role of Technology Integration in NEP 2020: Transforming Indian Education: A Comprehensive review Literature*". The paper focuses on the integration of technology in high school under NEP 2020, emphasizing to the use of technology in the field of education so that it can enhance the teaching-learning process, increasing of access to education as well as quality of education. In conclusion, it can be said that, NEP 2020 has a major role in determining the course for educational reforms, because it addresses the drawbacks of education system. A total of students will gain necessary social skills along with profound understanding of Indian heritage values, enabling the students to prepare for the modern world's complexities. NEP 2020 also has stressed on making education affordable and penetrates for everyone, ensuring that students are furnished to take on the future with better career opportunities and successful.

RESEARCH GAP

Artificial Intelligence(AI) is transforming teaching and learning globally, including in India, by enhancing both educational outcomes and teacher effectiveness. It is anticipated that the findings will assist institutions, teacher educators, and policymakers in the development of targeted professional development initiatives to foster informed and positive attitudes towards AI in education. Ultimately, this study promotes bridging the gap between policy and practice, exposing that educated, trained, and convinced teaching professional accomplish NEP 2020 aims concerning the integration of AI and digital. However, to fully realize these benefits, challenges such as the digital divide, teacher training, and ethical considerations must be carefully addressed.

SIGNIFICANCE OF THE STUDY

The National Education Policy(NEP) 2020 has currently introduced by the Government of India. The aim of National Education Policy 2020 is to change the Indian education system and make it more significant in the need of 21st century. The objective of NEP 2020 is to provide the quality education to all the students throughout the country. Artificial Intelligence(AI) is increasingly transforming traditional teaching and learning methods worldwide. Artificial Intelligence(AI) is transforming teaching and learning globally, including in India, by enhancing both educational outcomes and teacher effectiveness. AI offers the potential to personalize learning, improve efficiency, and enhance accessibility, enabling students to learn at their own pace while supporting teachers in delivering more effective instruction. Artificial Intelligence(AI) is increasing transforming the education system in India, influencing teaching methodologies, learning experiences, and administrative operations across schools, colleges and higher education institutions. These technologies not only enhance learning outcomes but also support teachers by reducing routine administrative tasks, enabling them of focus more on conceptual teaching and mentoring. AI has the potential to address long-standing challenges in the Indian education system, including large classroom size, disparities in access to quality education, and gaps in critical skills required for the modern workforce. This research examines both the opportunities and challenges of AI in Indias education system and evaluates it's social, ethical, and policy implications. The findings of the study, it explores recommendations and future prospects for the responsible and equitable implementation of AI in education, emphasizing inclusive access, ethical governance, and sustainable integration to ensure that AI contributes to overall educational development and empowerment.

STATEMENT OF THE PROBLEM

The researcher will be studied under the title- "*The Role of Artificial Intelligence in the Higher Education System: Under NEP 2020*".

OPERATIONAL DEFINITION

Artificial Intelligence(AI): It refers to use of AI technology (such as natural language processing and machine learning) to improve administrative, instructional, or learning procedures. The objectives of AI include learning, reasoning, execution and perception. With the help of AI, digital and automated processes get smarter. Additionally, it improves technology's reliability level.

NEP 2020: India's National Education Policy 2020, which encourages AI integration in order to improve quality, innovation, and equity in education. Teachers' understanding of policy recommendations (such as attending orientation programs) and alignment of their practices with NEP 2020's objectives (such as implementing AI for personalised learning).

OBJECTIVES OF THE STUDY

1. To Explore Artificial Intelligence from the Perspective of NEP 2020.
2. To Study the need of Artificial Intelligence in Higher Education.
3. To find out the different challenges of Artificial Intelligence in Higher Education.
4. To study the Recommendations made by NEP 2020 with respect of AI in the field of Higher Education.

RESEARCH QUESTIONS

- ❖ How does Artificial Intelligence work from the Perspective of NEP 2020?
- ❖ What are the need of Artificial Intelligence in Higher Education?
- ❖ What are the Challenges of Artificial Intelligence in Higher Education?
- ❖ What are the Recommendations made by NEP 2020 with respect of AI in the field of Higher Education?

METHODOLOGY OF THE STUDY

The study adopts a systematic literature review methodology to analyze the existing study on the role of Artificial Intelligence in the Higher Education: Under NEP 2020. The Qualitative research methods was used in this study. This method enables a structured and through examination of available literature. A systematic investigation has been conducted in academic database including ERIC, PubMed, Shodhganga, Indian Times, Academia and Google Scholar. The present study is mainly based on Secondary data. The important information has been collected from the book; publish data of World Bank Report, research paper and Journals that provides an entire picture about the role of Artificial Intelligence in the higher education: under NEP 2020.

ANALYSIS AND DISCUSSION

Dada analysis the major process that is required to be effectively implemented. After the collection of data, the data was organized, analyzed, and given proper interpretation on basis of the objectives on the study. The data was analyzed and given proper interpretation on the basis of the objectives of the study, which are given below:

How does Artificial Intelligence work from the Perspectives of NEP 2020?

This policy gives important to the need of coordinating of AI in the higher education to produce more interaction and involving learning atmosphere. NEP 2020 suggest use of learning environment, online evaluation, and online labs, mixed learning will enable in teaching learning. The appropriate involvement of Artificial Intelligence in higher education under the NEP 2020 has the powerful to change the Indian education and equip the students with skills and experience. They are some key points of artificial intelligence from the perspective of NEP 2020:

- **Research and Innovation:** The new education policy aims to promote research and innovation in high school system. However, there are still a number of problems in this domain. For example, lack of funding, the insufficient qualified researchers and teachers.
- **Blended learning:** NEP-2020 fosters the use of blended learning that mixes traditional classroom teaching with online learning content. It would be able the teachers to give personal learning experience for each learner.

➤ **Virtual labs:** This education policy promotes the use of virtual labs to give the students with manual learning experiences in science, engineering and other subjects. It will help the learners to understand the complex concept better and develop the practical skills without presence of physical equipments.

➤ **Research and Innovation:** The new education policy aims to promote research and innovation in high school system. However, there are still a number of problems in this domain. For example, lack of funding, the insufficient qualified researchers and teachers.

➤ **Digital content resources:** This policy recommends the use of digital resources like, e-journal, e-books and other online contents supplementing in traditional classroom teaching. It would enable the students to access high quality learning contents and involve self-paced learning.

➤ **Online evaluations:** NEP-2020 recommends the use of online test to evaluate the student's learning experience. It will consent the teachers to give instant feedback to the students wherein they need to improve.

➤ **Teacher training:** This policy identifies the importance of teacher training in the effectiveness support technology in the field of education. NEP-2020 suggests that the provision of regular training and help to teachers so that they can use the digital equipments and resources.

What are the need of Artificial Intelligence in Higher Education?

Artificial Intelligence (AI) is becoming very important in higher education because it improves how students learn, how teachers teach, and how universities operate. Here are the main needs of AI in higher education:

➤ To provide personalized and flexible learning experiences for students, AI involves combining systems with intelligence, computations and data analysis techniques. The purpose of AI in education is to enhance learning results, encourage student involvement and give students the support they need.

➤ AI can assist educators in developing specific plans for instruction and evaluations that are aligned with each student's particular strengths and weaknesses, which can enhance their involvement and inspiration and ultimately result in better academic outcomes.

➤ Using artificial intelligence, a personalized study schedule can be generated for each learner that takes into account any knowledge gaps. AI makes it easier to determine what a learner understands and fails to comprehend.

➤ AI can change the curriculum and content, making it more interesting and relevant for students. AI is able to recommend and create content that interacts with learners by analyzing enormous amounts of data regarding student preferences, interests and learning outcomes.

➤ AI has the potential to expand and increase the educational experience for students by giving unique methods of accessibility as well as personalized learning catered to each student.

➤ It can improve teaching and learning by using multimedia tools to bring abstract concepts to reality. Conventional responsibilities can be undertaken by it, and allowing teachers to concentrate more on teaching and the specific requirements of each student.

➤ AI makes it easier for students to access top-notch learning materials, regardless of their location or financial situation. It can help teachers give students more thorough and accurate feedback by evaluating their performance data and identifying areas in which they require

➤ development.

What are the Challenges of Artificial Intelligence in Higher Education?

There are some challenges of using Artificial Intelligence in higher education in implementing AI in the field of education in the perspective of NEP-2020. Let's see

➤ **Lack of trained teachers:** The pedagogical challenge means the difficulties in changing and improving teaching and learning in the higher education system. There might be shortage of trained teachers to support of online teaching. If there are lacks of trained teachers in educational institution then student cannot learn properly.

➤ **Need for technical expertise:** It may be challenging for teachers who are unfamiliar with AI to incorporate this technology into their teaching practices, and they may require assistance and training to get started.

- **Lack of infrastructure:** There might be a lack of infrastructure such as electricity to support online education. There are different types of infrastructure such as smart mobile phones; laptop, internet access etc. are required for getting online education.
- **Ethical concerns associated with incorporating AI into the classroom:** Concerns have been raised regarding the implications of AI on privacy, security, and the job economy as it gets more sophisticated. Teachers must be aware of these problems and work to protect their students as they experiment with rapidly growing technology.
- **Digital divides:** While the policy stresses the use of technology in education, existing digital divide, particularly in rural area and among socio-economic disadvantaged group may be hinder the equitable implementation of technology driven learning solution.
- **Visions and inaccurate data:** Since AI is developed using data, the underlying data may contain implicit or explicit biases that could lead to prejudice against particular groups based on gender or race. This may worsen already-existing disparities in society and endanger the values of equality and equity in education.
- **Poor funding:** Poor funding is also a challenging issue. Most of the education the education institution can't beard technology in their institution. Due to poor funding lot of education institution can't integrate technology with education. Even they can't buy the digital resources to integrate the technology in the field of education.

What are the Recommendations made by NEP 2020 respect of AI in the field of Higher Education?

The National Education Policy (NEP) 2020 recognizes Artificial Intelligence (AI) as a key emerging technology that will influence the 21st century. Therefore, it recommends several measures to integrate AI in higher education institutions (HEIs) for teaching. Below are the major recommendations of NEP-2020 regarding AI in higher education:

- **Digital literacy:** NEP-2020 is focusing on developing digital literacy, as well as critical thinking and problem-solving in the students. It means digital education. Digital literacy or digital education is a major aspect of NEP-2020. The main purpose of NEP-2020 is to develop digital literacy, critical thinking and problem-solving ability among the people. Equal opportunity should be arranged for the students so that, they can be well educated.
- **Research and Innovation:** The new education policy aims to promote research and innovation in high school system. However, there are still a number of problems in this domain. For example, lack of funding, the insufficient qualified researchers and teachers.
- **Digital infrastructure:** NEP 2020 suggests that different types of digital infrastructure should be provided to educational institutions and also to students so that any educational institutions can support to students with educational infrastructure like, computer, Laptop, Smart mobile etc. Apart from this, by using such digital technological infrastructure, student can learn about the different types of subjects. This is why; NEP-2020 has recommended that digital technology is very important in student's learning and education.
- **Technology based assessment:** The need of introducing technology based assessment tool is stressed by NEP-2020 to improve the quality and efficiency of examination. The use of artificial intelligence and machine learning should be included in the NEP-2020 to analyze the performance of the students and provide personalized based feedback. Technology based assessment like, computer based online exam software helps us to reduce the human error and make the examination process more transparent and fair.
- **Online teaching-learning platform:** NEP-2020 proposes the promotion of online teaching-learning platforms and e-learning resources. Nowadays online teaching-learning platform is required for students which help to interact in different types of students or groups. These types of platform create a healthy environment wherein teacher and students can interact within themselves. As a result of which both are benefited through online teaching-learning platforms. These kinds of platform increase the standard of education and effective learning of the student.
- **Interactive learning environment:** This policy stresses on the need of integrating of technology in high school to create conducive interactive learning environment so that students can interact with themselves. Technology creates a such environment in which their learning is joyful that is why, NEP-2020 proposes the

use of learning resources, virtual labs, blended learning to enable the high school to deliver high quality education, so that the needs of 21st century are met.

➤ **Personalized Education:** National Education Policy NEP -2020 is a whole structure of transforming the education system in India. Focusing on the customizing of courses to meet the needs of learner is the one of the important aspects of NEP-2020. NEP-2020 inspires the schools and colleges to use technology so that, customized course is enhanced. Because technology helps in learning of personal experiences, providing appropriate feedback to the teachers as well as students so that they can improve properly and facilitating in collaboration among learners.

CONCLUSION

Artificial Intelligence (AI) is transforming teaching and learning globally, including in India, by enhancing both educational outcomes and teacher effectiveness. AI enables adaptive learning, tailoring lessons to individual student needs and allowing learners to progress at their own pace. AI plays a pivotal role in helping the implementation of NEP-2020 in the higher education. In case of managing and integrating different sides of the education system, Enterprise Resource Planning and Learning Management System are very useful. This also helps in delivering educational Content, finding student progress, and giving professional development opportunities for the teachers. The National Education Policy 2020 has a major role in determining the course for educational reforms, because it addresses the drawbacks of education system. The main aim of this paper is to study the need of AI in the field of education and find out the different Challenges therein. However, to fully realize these benefits, challenges such as the digital divide, teacher training, and ethical considerations must be carefully addressed. The successful implementation of AI in education requires collaboration between the government, educational institutions, technology providers, and society at large. By tackling these challenges and leveraging the opportunities AI presents, India can create a more inclusive, efficient, and student-centered Learning environment, paving the way for a transformative future in education.

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