

AI-TEACHER-STUDENT COLLABORATION FOR SKILL DEVELOPMENT AND EMPLOYABILITY IN HIGHER EDUCATION

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Abstract:

This paper focuses on the role of artificial intelligence in strengthening collaboration between teachers and students to enhance skills and employability in higher education. The purpose of this study is to examine how AI-supported classrooms, when guided properly by teachers, can improve learning outcomes and career readiness. The study highlights three key collaborations: AI with teachers, AI with students, and teacher-student interaction supported by AI tools. It also addresses the importance of avoiding misuse of AI by promoting ethical and guided usage.

Primary data has been collected through questionnaires and interactions with students and teachers to understand their perception of AI in education. The analysis shows that AI-based learning increases conceptual clarity, communication skills, digital competence, and job-oriented abilities. Proper guidance from teachers helps students use AI responsibly for research, assignments, and skill development rather than dependency.

The findings suggest that AI-integrated classrooms, as supported by the National Education Policy (NEP) 2020, encourage advanced technology adoption in higher education. Such innovation not only improves employability but also increases student engagement and institutional enrollment. This study will be useful for educators and institutions in designing technology-driven, ethical, and skill-oriented learning environments.

Keywords: Artificial Intelligence, Teacher, Learner, Triangular, Employment, Skill development.

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Introduction:

In the 21st century, education is undergoing radical restructuring due to technological upgradation and increasing digital involvement. Artificial Intelligence (AI) has risen to prominence by reshaping teaching, learning, assessment systems, and career preparation processes. Educational institutions are no longer confined to the traditional chalk-and-talk method; instead, they are shifting toward technology-driven, skill-based education models.

Notwithstanding curriculum reforms, many students remain inadequately prepared for real-world employment. A remarkable gap is observed between academic knowledge and industry expectations. Traditional methodologies mainly focus on

examination performance and result-oriented learning rather than on employability skills such as problem-solving ability, adaptability, creativity, and digital competencies demanded by the job market.

In this context, the study of AI teacher-student collaboration becomes highly significant. Rather than replacing teachers, AI functions as a supportive partner in the educational process. Teachers act as facilitators who guide students in using intelligent tools for research, skill development, career planning, project work, and ethical learning practices. Through such collaboration, learning becomes more personalized, experiential, and career-oriented.

Although existing literature has explored the role of AI in education, limited research highlights the

collaborative relationship among AI, teachers, and students together. The combined impact of all three on skill enhancement, job readiness, institutional enrollment, and ethical use of AI remains underexplored. Many researchers focus mainly on technological adaptation while ignoring the importance of human guidance required to achieve meaningful educational outcomes.

Hence, the present research paper aims to analyze the role of AI, teacher, and student collaboration in enhancing job employability, supporting institutional growth through enrollment, aligning educational practices with NEP 2020, and promoting responsible and ethical use of AI in academic environments.

Review of Literature:

The role of Artificial Intelligence in education has been widely explored in recent years.

Holmes et al. (2019) explained that Artificial Intelligence has the potential to significantly improve the quality and effectiveness of education by supporting personalized learning. Their study highlighted that AI systems can analyze students performance and provide customized feedback, which helps learners improve their understanding and skills. The authors also emphasized that AI can assist teachers by reducing administrative workload and allowing them to focus more on student development. They further noted that AI enhances student engagement and promotes active learning by adapting content to individual needs. However, they stressed that AI should function as a supportive tools under teacher supervision rather than replacing educators. Their research concludes that the combination of AI technology and teacher guidance creates a more effective and skill- oriented learning environment.

Sharma and Kulkarni (2022) examined the impact of AI – supported learning platforms in higher education institutions in India. Their study found that the use of AI tools improved student engagement, learning

efficiency, and overall academic performance. Students were able to access personalized learning materials, which enhanced their conceptual clarity and independent learning ability. The research also highlighted that AI contributed to the development of digital skills, analytical thinking, and employability readiness. Importantly, the authors emphasized that teacher guidance plays a crucial role in ensuring effective and ethical use of AI tools. The study concluded that AI integration, when supported by teachers, strengthens skill- based education and prepares students for modern workplace requirements. Rao and Iyer (2021) examined the role of Artificial Intelligence based career and learning tools in Indian higher educations institutions. Their study found that AI supported platforms enhanced students engagement, communication skills, and analytical abilities. The authors argued that AI tools allow teachers to guide students more effectively through personalized feedback and adaptive learning resources, thereby strengthening collaboration between students and instructors. AI enabled systems such as chatbots and tutoring platforms also help educators track student progress and provide targeted academic support. Mehta (2023) explored the impact of digital teaching technologies and AI assisted platforms on higher education quality in India. The findings suggested that AI based educational tools contribute to better academic outcomes, improved students engagement, and enhanced institutional quality indicators, which are relevant for accreditation frameworks like NAAC. Mehta emphasized that AI facilitates data driven decision making for teachers, enabling them to design personalized teaching strategies that encourage collaborative learning.

Singh and Patil (2022) emphasized the importance of teacher readiness and training for successful AI implementation. Their study showed that teacher guidance is essential for ethical and effective AI usage.

Their research highlighted that AI technologies such as adaptive learning platforms, automated assessments, and intelligent tutoring systems support collaborative learning environments.

UNESCO (2021) also highlighted that AI can improve education quality, accessibility, and skill development. However, ethical concerns and misuse of AI must be addressed through teacher supervision and institutional policies. These studies confirm that AI enhances education quality and employability. However, limited research focuses on the collaborative role of AI, teachers, and students together. This study addresses this gap by examining their combined impact.

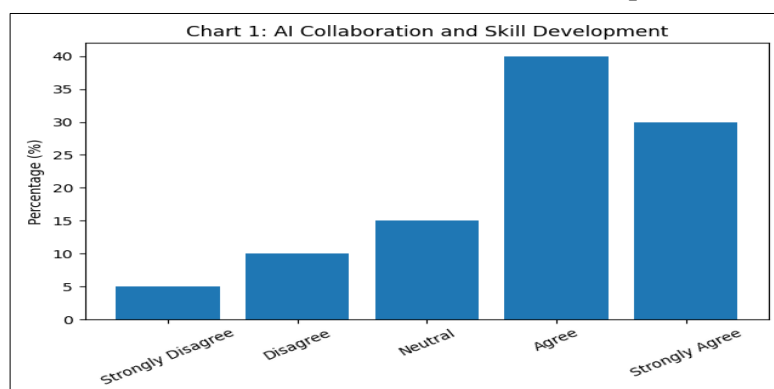
Objectives of the Study:

1. To examine the impact of AI–teacher–student collaboration on skill development and employability.
2. To evaluate the role of AI integration in enhancing institutional reputation and enrollment.
3. To assess the role of AI in bridging academic and industry gaps.

Analysis and Interpretation:

The findings indicate that the majority of respondents agree that AI enhances skill development, employability, and institutional reputation. AI provides practical learning opportunities and improves career readiness. Teachers play an important role in guiding ethical AI usage and ensuring responsible learning.

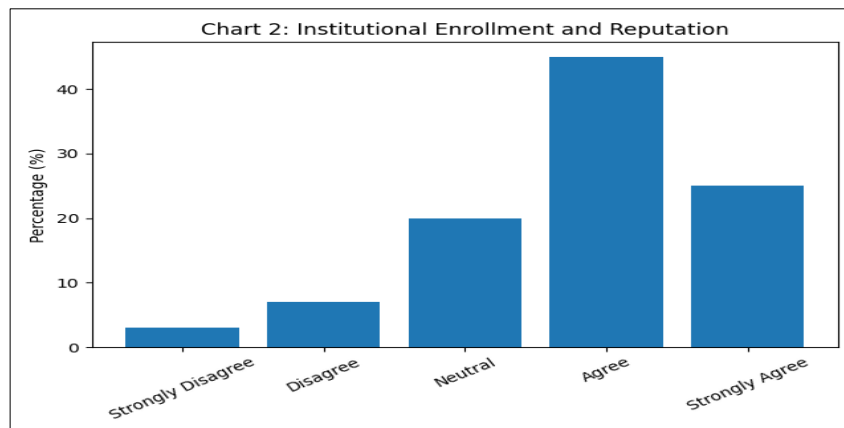
Chart 1: AI Collaboration and Skill Development



The table and corresponding bar chart indicate that 40% of respondents agreed and 30% strongly agreed that AI–teacher–student collaboration enhances skill development and job readiness. Only a small percentage expressed disagreement. This shows a strong positive perception regarding the role of AI in improving employability competencies such as problem-solving, digital literacy, and adaptability.

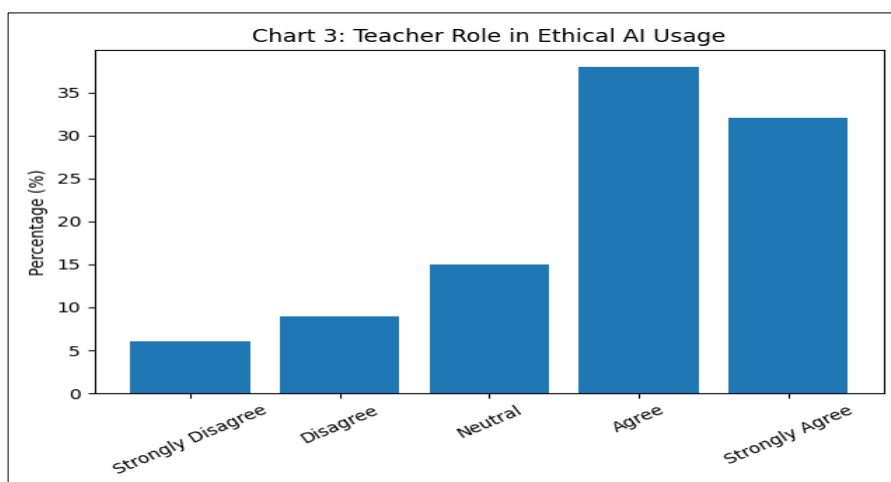


Chart 2: Institutional Enrollment and Reputation

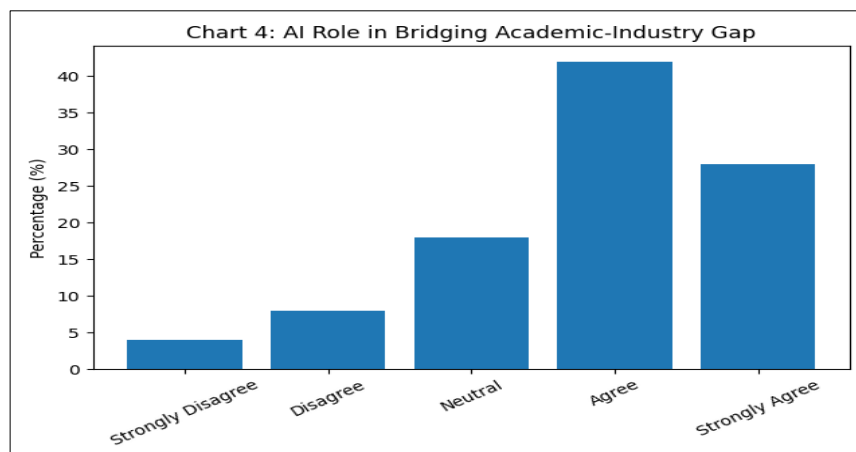


The chart presents respondents' opinions regarding the impact of AI based student – teacher collaboration on institutional enrollment and reputation. A small proportion of respondents strongly disagreed (around 3%) and disagreed (about 7%), indicating that only a limited number of participants believe AI collaboration does not influence institution development. Approximately 19% of respondents remained neutral, suggesting uncertainty or lack of strong opinion regarding the effect of AI integration. However, a significant majority expressed a positive view. Around 44% of respondents agreed and about 24% strongly agreed that AI supported collaboration between students and teachers enhances institutional enrollment and reputation. This indicates that most participants perceive AI integration as beneficial for academic institutions.

Chart 3: Teacher Role in Ethical AI Usage



The chart illustrates respondents' opinions regarding the role of teachers in ensuring ethical usage of Artificial Intelligence in education. A small percentage of respondents strongly disagreed (around 6%) and disagreed (about 8%) indicating that only a limited group believes teachers do not have a significant role in guiding ethical AI use. Around 14% of respondents remained neutral, suggesting uncertainty or limited awareness about the teacher's role in AI ethics. However, the majority of respondents expressed agreement. Approximately 36% agreed and about 30% strongly agreed that teachers play an important role in guiding students toward the ethical and responsible use of AI technologies in education. This indicates strong support for teacher involvement in supervising and guiding AI usage.

Chart 4: AI Role in Bridging Academic-Industry Gap


The chart illustrates respondents' perceptions regarding the role of Artificial Intelligence in bridging the gap between academic learning and industry requirements. A small proportion of respondents strongly disagreed (around 4%) and disagreed (about 8%), indicating that only a few participants believe AI does not contribute to reducing the academic industry gap. Approximately 18% of respondents remained neutral, suggesting that some individuals are uncertain about the effectiveness of AI in this area. However, the majority of respondents showed a positive opinion. Around 42% of respondents agreed and about 28% strongly agreed that AI plays an important role in connecting academic knowledge with industry needs. This indicates that most participants believe AI technologies can support practical learning and skill development.

Interpretation :

The overall findings of the study indicate that the integration of Artificial Intelligence in student – teacher collaboration has a significant positive impact on education system. The majority of respondents agreed that AI supported learning improves institutional reputation, student engagement, and academic development. The results also highlight that teachers play a crucial role in guiding students toward the ethical and responsible use of AI technologies. Furthermore, respondents believe that AI can effectively bridge the gap between academic knowledge and industry requirements by providing practical learning experiences, data- driven insights, and skill oriented training. The positive responses across different charts demonstrate that AI based collaboration enhances teaching effectiveness, learning outcomes, and employability opportunities for students.

Overall, the study suggests that the proper integration of AI in higher education, combined with active teacher involvement, can contribute to institutional growth, improved academic quality, and better preparation of students for the modern workforce.

Conclusion:

The study concludes that AI collaboration with teachers and students significantly improves skill development and employability. AI integration enhances institutional growth and aligns with NEP 2020 objectives. Teacher guidance is essential for ethical AI usage and meaningful learning outcomes.

Most respondents agreed that AI based tools support better communication, personalized learning, and academic engagement between students and teachers. The results also reveal that AI integration enhances institutional reputation and enrollment, as modern digital learning systems attract students seeking technology driven education. Furthermore, teachers

play a crucial role in guiding students toward the ethical and responsible use of AI tools, ensuring that technology supports learning without compromising academic integrity. Another important finding of the study is that AI helps bridge the gap between academic knowledge and industry requirements by developing practical skills and improving employability. Therefore, the study concludes that the effective implementation of AI, combined with proper teacher guidance, can significantly improve educational quality, student learning outcomes, and institutional development.

Suggestions and Recommendations

Institutions should provide teacher training programs, develop ethical AI policies, improve digital infrastructure, and promote industry collaboration to enhance employability outcomes. Universities should collaborate with industry partners to integrate AI based practical learning and real world applications into the curriculum. Institutions should invest in advanced digital infrastructure and AI enabled learning platforms to support modern educational practices. Workshop and seminars should be conducted to educate students about the benefits, limitations, and ethical use of AI technologies.

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