

Paradoxical Attitudes towards Artificial Intelligence (AI): Pedagogical Concerns of Adapting Technology in Bangladesh

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ARTICLE INFORMATION

The Faculty Journal of Arts
Rajshahi University
Special Volume-6
ISSN: 1813-0402 (Print)

Received : 16 February 2025
Received in revised: 08 April 2025
Accepted: 16 March 2025
Published: 25 October 2025

Keywords:
War, Violence, Diversity,
Interdisciplinarity, Holistic
interpretation

ABSTRACT

The use of Artificial Intelligence (AI) in education has sparked a complex debate, both within and between institutions, across various educational contexts, including Bangladesh. While AI offers new opportunities for pedagogical innovation and greater accessibility to adaptive learning experiences, it also raises significant ethical and intellectual concerns. Issues such as academic integrity and students' growing reliance on AI-driven tools have caused anxiety among educators, while students themselves struggle to balance traditional academic practices with the advantages AI provides. Further concerns center on the diminishing role of human tutors, the authenticity of scholarly work, and the potential for algorithmic bias in AI-based learning systems. This study explores the conflicting perceptions of Bangladeshi teachers and students regarding the use of AI in academia, highlighting both excitement about its potential and anxiety about its limitations. It examines AI's impact on academic integrity, critical thinking, and pedagogy, and assesses how institutions can address these challenges to maintain effective learning environments. The findings suggest that AI has the potential to revolutionize education by making it more accessible and efficient; however, its integration must be carefully managed to preserve academic integrity and foster intellectual development. This article advocates for a cautious, systematic, and equity-based approach to incorporating AI in education that ensures meaningful and just learning outcomes for the Bangladeshi education system. The impact of Artificial Intelligence largely depends on its application: when harnessed ethically, it serves as a tremendous blessing, but when exploited irresponsibly, it can lead to significant harm and destruction.

Introduction

Artificial Intelligence (AI) is playing an increasingly significant role across many sectors globally, with education being one of the most impacted. However, in Bangladeshi universities, its adoption is often met with a mixture of skepticism and cautious optimism. While AI-based tools offer promising opportunities to enhance teaching methods, personalize learning, and improve administrative efficiency, concerns are growing about their potential impact on students' critical thinking, creativity, and academic integrity. Although AI introduces a groundbreaking paradigm of innovation in education, its integration into pedagogy also presents an educational paradox, challenging established learning structures and raising ethical questions about the reliability and appropriateness of AI applications in academia. Rapidly advancing AI-driven technologies such as ChatGPT, Gemini, DeepseekAI, automated grading systems, and AI-generated content are beginning to influence nearly every academic institution worldwide. However, in Bangladesh, the adoption of these tools has been slower, largely due to infrastructural limitations, a lack of AI literacy, and skepticism within the pedagogical community. Some institutions embrace AI-enhanced learning to improve accessibility and effectiveness, while others express concern over its potential to undermine students' intellectual development and originality. Moreover, given that contemporary pedagogy is increasingly interdisciplinary, the impact of AI must be assessed both within individual disciplines and across broader academic fields. The traditional focus of faculties such as Arts and Humanities on critical

thinking and humanistic inquiry makes the full integration of AI into teaching particularly complex, as educators strive to ensure students continue to develop essential skills in creativity and analysis skills that remain central to both academic success and everyday life. As AI-driven products become more widespread, educators face pressing questions like the acceptance rate of AI in learning environments, the allowance of using AI-generated materials by the students and whether AI can be employed to support pedagogical strategies without devaluing the role of human instructors. This paper seeks to address these critical issues by providing a comprehensive analysis of the often contradictory attitudes toward AI in education, specifically within the context of Bangladesh. It highlights both the apprehensions and aspirations of educators and students, offering insights into how AI can be integrated in a balanced, ethical, and pedagogically sound manner. The study also proposes recommendations for adopting AI in ways that support, rather than replace, human-centered education. Understanding these concerns is vital as AI continues to evolve and reshape academic practices. This movement is not an attempt to reverse technological progress, but rather an effort to reconcile the growing dependence on technology with the enduring values of traditional pedagogy. In doing so, this research contributes to the broader conversation on AI in education by proposing a safe and sustainable framework for the responsible use of AI within the Bangladeshi educational system.

Background

The rapid advancement of Artificial Intelligence (AI) technology has significantly influenced how teachers and learners operate worldwide. AI-driven tools—such as intelligent tutoring systems, automated grading, and personalized learning platforms—are transforming classroom dynamics and reshaping educational practices. However, the adoption of AI in education within Bangladesh faces several challenges, including a lack of awareness, educator resistance, and ongoing ethical concerns. As such, the integration of AI into pedagogy requires careful planning and critical evaluation of its impact on teaching methods and student learning outcomes. This paper explores how AI is perceived and used across academic institutions in Bangladesh by analyzing the current educational landscape. Historically, AI in education has been viewed primarily as a tool for streamlining administrative processes or enhancing learning productivity. Early implementations in developed countries, such as dining safety systems and intelligent tutoring in structured disciplines, demonstrated significant improvements in personal performance and engagement. Yet, these systems were mainly tailored for subjects like mathematics and computer science, where learning objectives are more formulaic and structured. In contrast, the use of AI in the humanities and arts remains contentious, especially as AI technologies evolve at a rapid pace. While AI can effectively automate tasks in content-heavy subjects, such as generating textbook answers, solving formulas, or analyzing case studies, the humanities rely on critical thinking, interpretation, narrative analysis, and nuanced argumentation. In Bangladesh, AI is entering the academic space amid growing skepticism. Much of this resistance is rooted in fears that AI may undermine student creativity, originality, and ethical decision-making. With the proliferation of AI tools, such as automated essay generators and plagiarism detection software, educators worry that these technologies may inadvertently encourage academic dishonesty rather than prevent it. The lack of comprehensive institutional policies regulating AI use has resulted in varied approaches across universities and disciplines. Furthermore, infrastructural challenges, such as unreliable internet connectivity and limited digital literacy, continue to hinder AI integration, particularly in public universities. While private and elite institutions are better positioned to adopt AI-assisted learning, many public institutions still rely on outdated curricula and faculty members who are hesitant to embrace new technologies. The digital divide between urban and rural institutions further complicates AI adoption, creating an unequal academic ecosystem. Despite these challenges, the opportunities AI presents for enhancing the quality of education in Bangladesh are significant. Adaptive learning systems, for instance, can personalize content for students with diverse learning needs. AI-powered analytics can help educators identify at-risk students early and intervene with timely, targeted support. Additionally, real-time translation and content summarization tools have the potential to bridge language barriers for students in remote or underserved areas. These benefits suggest that, although integrating AI into

academic environments presents real challenges, the potential advantages, ranging from student support to improved teaching efficiency, could transform education in Bangladesh if implemented responsibly. In this context, examining how educators and students perceive AI and understanding the complexities of its integration has become increasingly important. This study, therefore, delves into the paradoxical viewpoints surrounding AI in academia, insights that help shape the research questions and methodology of the investigation.

Research Questions

- How do Bangladeshi educators and students perceive the role of AI in education?
- What are the primary concerns and challenges associated with AI adoption in pedagogy?
- How can AI be effectively integrated into the Bangladeshi education system while maintaining academic integrity, ethics and critical thinking skills?

Objectives

- To analyze the paradoxical attitudes towards AI in Bangladeshi academia.
- To identify the key pedagogical concerns related to AI integration in education.
- To evaluate the impact of AI on student learning and teacher assessment.
- To propose recommendations for ethically and effectively incorporating AI in academic settings.

Hypothesis

- AI has the potential to enhance pedagogical methods and learning experiences in Bangladesh.
- Resistance to AI in education stems from ethical concerns, lack of awareness, and fear of diminished academic integrity.
- A balanced and regulated approach to AI integration can foster innovation while maintaining educational quality and critical thinking.

Literature Review

Numerous studies have examined the pros and cons of AI in education. Research suggests that AI can create personalized educational experiences, making learning easier and more effective. However, academics warn against uncritical reliance on AI, arguing that human involvement is essential to preserve creativity and critical thinking. Research in Bangladesh shows that while students are eager to use AI in academic settings, teachers remain skeptical. The literature highlights the urgent need for regulatory guidelines and policies to support the integration of AI as a complementary tool rather than a substitute for traditional pedagogy. Recent studies on AI and pedagogy emphasize both its transformative potential and its disruptive challenges. Not only does this point to an increasingly prominent role for AI in education (Harris, 1999), but also raises deeper concerns regarding the ethical boundaries of academic honesty (Selwyn, 2019). Luckin et al. and Parmar et al. (2018) extend this concept by examining AI in the context of augmenting human intelligence rather than replacing it. They advocate for a hybrid learning model in which AI-supported education plays a role without becoming dominant. Brynjolfsson and McAfee (2014) argue that automation through AI can eliminate mundane tasks, allowing educators to focus on cultivating higher-order cognitive skills. In contrast, Knox (2020) emphasizes that despite AI's

advantages, over-reliance by academic staff could reduce critical thinking and human judgment. In the Bangladeshi context, Ahmed et al. (2017) highlight national AI policy interventions. Dollinger (2021) documents the limited adoption of AI in higher education institutions and universities due to infrastructural and educational barriers as well as faculty resistance, and thus calls for targeted policy measures. Similarly, Rahman (2022) addresses the ethical challenges posed by AI-based assessment tools, focusing on issues of fairness and reliability. The overall conclusion from these discussions is the need for a balanced, policy-driven approach to the integration of AI technology in education.

Methodology

This study adopts a mixed-methods approach, integrating both qualitative and quantitative research techniques. Surveys and interviews were conducted with university teachers and students across Bangladesh to gather insights into their perceptions of AI in education. Additionally, a comparative analysis of AI adoption across different academic institutions was carried out to identify patterns and emerging trends. The collected data was then analyzed thematically to capture the prevailing attitudes, expectations, and concerns surrounding the use of AI in academia.

Discussion

Artificial Intelligence (AI) refers to the simulation of human intelligence by machines, enabling them to perform tasks such as learning, reasoning, problem-solving, and decision-making. The term "AI" was first coined by John McCarthy during the 1956 Dartmouth Conference, which marked the formal establishment of AI as a field of research. Over the decades, AI has evolved from simple rule-based systems to sophisticated machine learning algorithms and neural networks.

The use of AI in education began with early intelligent tutoring systems in the late 20th century. By the 21st century, AI-driven educational tools—such as adaptive learning platforms, automated grading systems, and AI-assisted research applications—had revolutionized traditional pedagogical practices. Today, AI is widely utilized in higher education globally, including in Bangladesh, where it is reshaping systems by automating administrative tasks and creating personalized learning environments.

AI's role in education has received growing attention in Bangladesh, fueled by the increased availability of digital platforms and e-learning tools. Government initiatives to promote digital literacy among students—particularly in both urban and rural areas—have created a favorable environment for integrating AI into the education sector. To address diverse learning needs, AI-powered tools like smart learning platforms, personalized tutoring systems, and automated content generators have been introduced. These tools help students learn at their own pace, offering a more convenient, personalized, and effective educational experience.

However, alongside its potential, the integration of AI in education presents significant ethical challenges—especially within the context of Bangladesh's educational landscape. One major concern is the digital divide. Many rural students lack access to the infrastructure needed—such as high-speed internet and modern computing devices—to fully benefit from AI-driven technologies. This gap threatens to widen existing disparities between urban and rural education systems, disadvantaging already marginalized groups.

Academic integrity is another pressing issue. The widespread availability of AI-assisted research tools and automated essay generators increases the risk of plagiarism and academic dishonesty. Students may be tempted to use AI to complete assignments or exams, undermining the development of critical thinking and problem-solving skills. This places educators in a difficult position: they must find ways to incorporate AI into classrooms without compromising genuine learning or ethical standards.

The rapid pace of technological change also poses challenges for educators. In Bangladesh, many teachers—particularly those in public institutions—lack the necessary training to integrate AI effectively into their teaching practices. Furthermore, there is concern about losing the human element in education. While AI can provide personalized learning experiences, it cannot replace the vital role of teachers in fostering students' social, emotional, and ethical development. Therefore, professional development programs must emphasize integrating AI as a support tool rather than a substitute for traditional teaching methods.

Globally, universities and educational institutions are increasingly adopting AI to enhance teaching and learning. Notable examples include Stanford University and the Massachusetts Institute of Technology (MIT), where AI supports personalized learning, streamlines administrative tasks, and improves student outcomes. In the United Kingdom, universities such as the University of Edinburgh and Imperial College London are developing intelligent tutoring systems and leveraging AI to enhance research capabilities.

A particularly noteworthy case is Oxford University, which is exploring AI as a classroom aid. Oxford has launched trials where AI assists in delivering lectures and creating personalized learning pathways for students. While still in its early stages, Oxford's approach is being closely monitored by institutions worldwide. This reflects a broader trend in higher education: integrating AI not to replace traditional teaching but to complement and enhance it. Oxford's model could serve as a valuable example for Bangladeshi universities seeking to adopt AI while preserving the fundamental values of education and enriching the student learning experience.

Despite these advancements, the increasing reliance on AI in education raises significant ethical concerns. As AI becomes more central to the future of education, it is crucial that institutions both in Bangladesh and globally develop ethical guidelines and frameworks to ensure that AI is used responsibly, equitably, and effectively. Collaboration among educators, policymakers, and technology developers will be essential to minimize risks and maximize the benefits, ensuring that AI truly serves the best interests of students and the education system as a whole.

Recommendation

AI has great potential to transform the education sector in Bangladesh. But it needs to be introduced slowly but surely into the system because it can be a freely accepted, moral, and advantageous tool. Here are some concrete recommendations to normalize the deployment of AI with students and teachers.

1. Establish Clear AI Usage Guidelines for Students

The normalization of AI will start with establishment of policies on what constitutes acceptable use of AI tools by students. They should emphasize responsible use of AI, integrity in academics, and the value of using AI as a learning tool instead of a shortcut.

Ways to Implement

- Develop and distribute a student handbook on AI usage, including proper practices for using AI in assignments, research, and exams.
- Offer workshops or seminars on academic integrity, specifically focusing on how to use AI tools like plagiarism checkers and essay generators ethically.
- Incorporate ethical AI usage into the curriculum, particularly in courses related to digital literacy, technology, or ethics.

2. Create Digital Literacy Programs for Teachers

Creating professional development programs to help educators gain confidence in using AI in the classroom. These programs should not just be centered on the technical aspects of AI technology but rather how that technology may supplement pedagogical practices without overstepping the role of the teacher.

Ways to Implement

- Organize teacher training programs that offer hands-on experience with AI tools, such as intelligent tutoring systems, grading automation, and adaptive learning platforms.
- Develop online tutorials and resources for educators to familiarize themselves with the ethical, practical, and pedagogical use of AI in the classroom.
- Host regular workshops and webinars that showcase how other institutions globally are effectively using AI and how these practices can be adapted in Bangladesh.

3. Encourage Ethical and Responsible Usage of Artificial Intelligence

To normalize AI, we need to learn what ethical use of AI means, specifically with regard to data privacy and algorithmic biases, especially as both students and teachers. It will be critical that responsible AI use is taught to make certain that people view AI as a benefit in education and not a danger.

Ways to Implement

- Include AI ethics as a part of the curriculum, particularly in technology-related courses, to teach students about the biases AI systems might have and how to use AI responsibly.

- Conduct training sessions on AI data privacy, where educators and students are educated on how AI tools collect and process personal data.
- Involve students in discussions and debates on the implications of AI in education and society, helping them form a deeper understanding of the ethical challenges AI might pose.

4. Leverage AI for Administrative Efficiency to Free Up Teacher Time

By automating grading, student assessments and attendance tracking, AI can free up teachers from administrative duties so they can focus more on interactive teaching and engagement with students. Normalizing how AI is used supported by their administrators will showcase some of its immediate advantages while also building acceptance as the educators' comfort levels rise.

Ways to Implement

- Introduce AI-based administrative tools in schools and universities, like AI-powered grading systems, which can automatically grade objective assignments and quizzes.
- Implement AI-driven chat bots for administrative assistance, allowing students and teachers to get quick answers to common questions about school policies, schedules, and resources.
- Demonstrate the efficiency of AI tools in daily operations through pilot programs in schools, helping educators see the immediate impact of AI on their workload.

5. Create a National AI-Integration Plan for Education

Bangladesh may form a national strategy to implement AI in education to ensure a systematic and unified approach. This roadmap, with development of a strategy to use AI in stages in primary schools, high schools, technical and vocational institutes, and universities, must help teachers and students and provide a blueprint for the way forward.

Ways to Implement

- The Ministry of Education can draft a national AI education policy that provides clear guidelines for schools and universities to follow regarding AI implementation.
- Allocate government funding to pilot AI integration projects in select educational institutions, offering incentives for schools that demonstrate successful AI adoption.
- Establish collaboration between universities, research centers, and tech companies to develop localized AI tools that cater to the specific needs of Bangladesh's education system.

6. Foster Collaboration with International AI-Powered Institutions

Hence Bangladesh should partner with the foreign educational institutions and the educational technology companies working in the development of Artificial Intelligence in an effort to share and learn from best practices and know-how of employing AI in the classrooms. Working with internationally acclaimed universities who are at the forefront of AI-based pedagogy will instill a trust and confidence in Bangladeshi educators and students.

Ways to Implement

- Facilitate partnerships with AI-driven educational institutions, such as Stanford, MIT, and Oxford, to conduct joint research, webinars, and knowledge-sharing sessions on AI in education.
- Create student and educator exchange programs with AI-focused institutions abroad, allowing them to observe and adopt AI practices firsthand.
- Encourage joint ventures between Bangladeshi universities and tech companies to develop AI solutions tailored to local educational needs.

Proposed Model

We have also developed some work citation ideas like APA, MLA, or Chicago so that a student can acknowledge their sources from AI in any kind of academic writing, and a teacher can clearly understand their sources.

[Note: These are only primary proposed models. As they are not internationally recognized so we cannot use them in academic writing citation.]

Structure 01:



[Author's Name]. *Title of Work*. AI-Generated Document, [Given Command], [AI Tool Name, Version]. Academic Details. Date and time Created.

Example: John Doe. *The Role of AI in Climate Change Research*. AI-Generated Document, [Search for materials about *The Role of AI in Climate Change*], ChatGPT-4.2. David, 1.2 level, Department of English, University of XYZ. 12:54 PM, March 2025.

Structure 02



[Assignment Name]. AI-Generated Document, [Given Command], [AI Tool Name, Version]. Academic Details. Date and time Created.

Example: AI in Education. AI-Generated Document, [Create a conclusion for the topic AI in Education], GEMINI-2.0 Flash Thinking. David, 1.2 level, Department of English, University of XYZ. 12:54 PM, March 2025.

Works Citation

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