Policy Vacuum in an AI Era: Exploring the Urgent Need for AI Policy in Higher Education in Bangladesh

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Article

Policy Vacuum in an AI Era: Exploring the Urgent Need for AI Policy in Higher Education in Bangladesh

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Abstract

This study explored the immediate need of developing artificial intelligence (AI) policy in Bangladeshi higher education institutions by conducting in-depth interviews with ten university teachers and ten university students. The research exposed the significant policy deficiencies; ethical dilemmas; and governance considerations related to academic use of AI. Results revealed that, although AI adoption in higher education institutions was expanding rapidly, the lack of fully-fleshed institutional policies resulted in governance vulnerabilities and threw doubt on academic integrity and access equity. The study stressed the imperative for immediate policy actions towards filling up the policy void and ensuring responsible AI integration in the higher educational landscape in Bangladesh.

Keywords: artificial intelligence; higher education policy; Bangladesh; policy gap; academic integrity; digital transformation

Introduction

The development of artificial intelligence (AI) technologies has significantly changed the higher education environment around the world, providing unparalleled opportunities for improving learners' experiences, while at the same time offering new policy problems [1]. In Bangladesh, as higher education institutions increasingly adopted digital transformation efforts, AI tools and apps were integrated without appropriate policy guiderail to deploy and govern these tools [2,3]. This lack of policy caused grave concern regarding ethical AI practice, data privacy, academic integrity, and the possibility of equitable access to AI-enhanced educational resources [4].

The explosion and ubiquity of AI technologies in education environments required immediate policy response to plug governance gaps and define responsible AI implementation [5]. UNESCO acknowledged the struggle of countries, for instance Bangladesh had a critical need of a need of a national framework for AI in education and stressed on the need of developing clear-cut guidelines for ethical incorporation of AI [6]. There were, though, Bangladesh's National AI Strategy 2020 and Draft AI Policy 2024, however, no higher educational institutions had yet developed any institutional policy to guide the use of AI in academic sectors [7,8].

Writing on AI adoption in higher education, reading showed that new technologies both presented transformative possibilities and posed stark challenges [9]. At the same time, AI-based services improved custom-tailored learning experiences and facilitated the automation of administrative tasks but also brought with them new challenges around academic integrity, biased algorithms, and the displacement of traditional pedagogical methods [10,11]. Earlier work showed that the lack of AI policy created governance vacuums and ethical challenges for educators and students in academic institutions [12,13].

The need to fill this policy void was further articulated in light of Bangladesh's grand goals for digital transformation as well as the Fourth Industrial Revolution [14]. Universities have been a key locus for the innovation and workforce development on AI activity but have been working in the absence of enough policy guidance to help them work through the difficult legal and ethical and

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educational challenges [15]. This gap in research called for a thorough enquiry into stakeholders' perspective on AI policy needs and governance challenges in higher education in Bangladesh.

The main purpose of this study was to investigate the perceived urgency for the development of AI policy in the higher education sector of Bangladesh from the perspective of the stakeholders. The specific research objectives were: (1) Explore ongoing AI-uptake patterns and policy gaps in HE-ins; (2) Identify main ethical challenges and governance issues regarding the implementation of AI; (3) Study the current vision(s) of stakeholders for policy priorities/needs to AI implementation; and (4) Analyse the consequences of policy voidness to academic integrity and educational equity.

Literature Review

International dialogue on AI in higher education policy also showed varied responses and growing governance models [16]. International organisations, mostly UNESCO, set up extensive guidance for AI's integration to education, highlighting human-centred approach, ethic principles and inclusive strategies of implementation [17]. In the UNESCO AI Competency Framework for Teachers, several specific AI skills have been identified as being necessary to integrate AI responsibly, such as knowledge of AI basics, ethics and pedagogy around AI [18,19].

Studies of AI adaptation in developed countries presented opportunities and challenges in formulation of policies [20]. In face of issues related to academic honesty and equal access, the US used adaptive learning systems and AI education tools [21]. AI literacy and educator training in Finland, while in Singapore; it was in the STEM education and lifelong learning frameworks [22]. These diverse responses can inform a robust AI policy in emerging economies.

Bangladesh's journey of digital transformation in higher education has shown further development with gradual challenges [23]. The National AI Strategy 2020 for the country outlined high ambitions in using AI for national development, but did not have any specific implementation mechanisms to the educational sector [25]. The subsequent Draft AI Policy 2024 offered stronger frameworks for Regulation, Ethics and Data Governance, but still left gaps in the sectoral guidance for higher education [26,27].

Institution like BRAC university in Bangladesh have excelled AI adoption when compared with public universities and have introduced AI-assisted learning tools [28]. But public universities faced the challenges of limited facility, inadequate funding, and untrained teachers [29]. Such discrepancy highlighted the concern on fair AI usage with an overall comprehensive policy framework to tackle institutional differences.

The ethical concerns related to AI in higher education surfaced as a key area of interest for urgent policy attention [30]. Ethical issues also included bias, privacy, academic integrity and perpetuating educational inequality [31]. Studies showed that AI can be biased if trained on biased data, and tend to discriminate underrepresented group in admission, marking and course recommendation [32].

Data privacy and security issues complicated AI governance in educational settings [33]. AI applications often relied on large-scale student data, which concerned many about issues related to student privacy, data ownership, and data misuse [34]. The absence of clear instructions on how to handle, store and share data was a vulnerability institutional policy had to secure.

Studies of the AI (Artificial intelligence) policy deployment at educational scenarios have shown a great discrepancy between policy intentions and their actual deployment [35]. A UNESCO study discovered less than 10% of schools and universities around the world pursued establishing AI guidance in a formal manner, indicating a policy void is prevalent [36]. This result supported the need for policy development and indicated the difficulty in establishing efficient governance arrangements.

Research on policy adoption in higher education found multiple obstacles to effective AI governance [37]. Overarching themes Three themes emerged from the literature in explaining the factors contributing to a lack of AI uptake: resource constraints, resistance to change, the complexity of implementing AI, lack of technical knowledge among management and uncertainty about what

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regulations apply [38]. Faculty were typically not sufficiently trained and supported to integrate responsible AI, and students had very little guidance about how to appropriately use it.

Little research had been conducted on AI policy needs in Bangladesh's higher education, indicating a considerable gap in the literature [39]. Previous studies mainly concentrated on technical aspects that are mainly related to the implementation of AI rather than governance and policy needs [40]. This gap of research motivated to empirically exploring perspectives of stakeholders and policy priorities in HEIs of Bangladesh.

Recent work on AI application for Bangladeshi higher education have unveiled troubling trends within academic integrity and critical thinking development [41]. One survey study was found that reported 65% of students used AI for course management; 51.6% of them worried about AI dependence and lack to develop the capabilities of analysis [42]. These results highlighted the importance for well-defined policy guidelines on responsible AI use in academia.

Research Methodology

This research adopted a qualitative approach using in-depth interviews (IDI) to understand the stakeholders' perspectives on the AI policy requirements for the higher education sector in Bangladesh. A qualitative inquiry was chosen in order to gain sensitivity and insight into the complex issues of AI governance, policy deficiencies and stakeholder experiences [43]. Depth interviews enabled richer exploration of participants' perspectives, allowing for the probing of emergent themes and the collection of rich, contextual information about AI policy needs [44].

The study design followed principles of interpretive phenomenological analysis, which concentrated on participants' experiences of using AIs and their perceived policy requirements [45]. This method realised a thorough investigation of both individual and pattern on group level in experience of stakeholders and therefore an adequate basis for policy conclusions [46].

Purposive sampling was used to select a sample of 20 participants including 10 university teachers and 10 university students of Bangladeshi universities. To do so, purposive sampling was selected due to the inclusion of key stakeholder groups, who were directly impacted by AI policymaking within the academy [47]. Only subjects who met several criteria were included: currently participating in higher education, having a familiarity with digital technologies, and willingness to talk in detail about AI questions.

Ethical considerations were considered at every stage of sampling. All the participants filled an informed consent form after they were fully informed about the objectives of the study, the techniques used, data treatment and their rights as research subjects. Anonymization steps and secure processes for saving the data were employed to maintain confidentiality.

Semi-structured in-depth interviews were conducted between March and May 2024 to gather the data. Interviews were 45-60 minutes in duration and participants were interviewed in preferred language (Bengali or English) for comfort, and increased opportunity for full explication of perspectives [48]. All interviews were digitally sound - recorded, subject to participant permission, and transcribed in full for analysis.

The primary analytical technique, thematic analysis, was used following the 6-phase systematic approach of Braun and Clarke in identifying, analyzing, and interpreting patterns within qualitative data [49]. The analysis process started with reading and re-reading of transcripts for familiarization, and the categorization of extracts that had potential relation to the research objectives.

Results

The research investigated the critical requirement of an AI policy in the context of higher educational institutions of Bangladesh and found weaknesses in governance, ethics, equity, and readiness. Throughout, participants frequently raised that there are no clear policies, ethical issues, security concerns, equitable access and capacity concerns. Teachers and students stressed that

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although the use of AI is increasing, the lack of coordinated standards and training contributes to a misuse of AI, which presents challenges to both the institutions and the learners.

Policy and Governance Vacuum

The absence of structured governance around AI was evident across universities. Teachers and students described uncertainty, inconsistency, and lack of direction in AI integration, which forced institutions to navigate independently.

Lack of National AI Policy Framework

Teachers pointed to the absence of government-issued directives. "We are simply experimenting with AI tools without official guidelines" (Teacher 1). Students shared similar concerns. "No one tells us whether AI in assignments is acceptable or not" (Student 1). This national-level vacuum left universities improvising policies on their own.

Institutional Policy Gaps

Universities had no uniform internal rules. "My institution has not issued any policy, so every department decides differently" (Teacher 2). Students confirmed inconsistencies. "One lecturer praises AI use, another penalizes it" (Student 2). Such gaps undermine fairness in assessment and practice.

Policy Awareness Deficit

Stakeholders showed limited knowledge of international AI frameworks. "I recently read about UNESCO guidelines, but no one has discussed implementation here" (Teacher 4). Students noted the same gap. "We only hear about ChatGPT, not about how other countries regulate it" (Student 4). Limited policy awareness restricts informed discussion within universities.

Ethical and Academic Integrity Concerns

The study revealed that ethical dilemmas and threats to academic integrity are central challenges in AI adoption. Teachers and students reported concerns about plagiarism, bias, accountability, and diminished critical thinking. Unregulated AI use creates uncertainty, and inconsistent practices across universities exacerbate ethical risks. Participants emphasized the need for clear guidelines and awareness to maintain fairness and academic quality in higher education.

Plagiarism and Academic Dishonesty

Teachers repeatedly highlighted that AI is used to bypass real academic work. "Students submit AI-generated assignments without understanding the content" (Teacher 1). "Some students rely entirely on AI for research tasks" (Teacher 2). Students admitted peers often use AI secretly. "Many classmates copy AI outputs and submit them as their own work" (Student 1). "It's hard to know who is genuinely learning and who is using shortcuts" (Student 3). Overall, participants agreed that plagiarism risks are heightened without institutional monitoring.

Bias and Transparency Issues

Teachers observed that AI outputs are sometimes biased or unclear. "The system can reinforce stereotypes, and there's no way to verify results" (Teacher 3). "AI doesn't explain how it reaches conclusions, which is worrying" (Teacher 4). Students also faced inconsistent outputs. "The same question gives different answers, and we don't know which to trust" (Student 4). "It's confusing when AI suggestions contradict each other" (Student 5). These issues highlight the need for transparency in AI tools used academically.

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Accountability Challenges

Participants expressed uncertainty about responsibility for AI misuse. "If AI produces incorrect or plagiarized content, who is accountable—the student, teacher, or platform?" (Teacher 5). "There's no clear protocol when errors occur" (Teacher 6). Students reflected the same concern. "We don't know if we'll be penalized for AI mistakes" (Student 6). "It's unclear whether using AI responsibly is even recognized" (Student 7). This lack of accountability guidance adds confusion and risk to academic practices.

Erosion of Critical Thinking

Teachers noted over-reliance on AI reduces independent problem-solving. *"Students no longer attempt to solve problems themselves; they just copy from AI"* (Teacher 7). *"Critical reasoning skills are declining"* (Teacher 8). Students admitted AI often replaced their own effort. *"It's easier to let AI do the work than think through problems"* (Student 8). *"Sometimes I feel I'm not learning fully because I rely on AI too much"* (Student 9). Participants concluded that AI could unintentionally weaken intellectual engagement if unregulated.

Equity and Access

Participants highlighted significant disparities in access to AI tools and resources across higher education institutions. Teachers and students emphasized that unequal infrastructure, high costs, language barriers, and lack of inclusive policies create inequitable learning environments. These challenges limit the potential benefits of AI, particularly for marginalized students, and underscore the need for targeted strategies to promote equitable access.

Digital Divide

Teachers noted that students in rural or under-resourced areas often struggle to access AI tools. "Only students with reliable internet can fully benefit from AI applications" (Teacher 1). "Some institutions don't have enough computers or updated systems to support AI" (Teacher 2). Students reported similar issues. "Many classmates cannot access AI tools due to poor connectivity" (Student 1). "It feels unfair that only some students can use these technologies" (Student 2). The digital divide clearly limits learning opportunities for disadvantaged students.

Cost Barriers

High subscription fees for AI platforms were identified as major obstacles. "Premium AI tools are too expensive for most students, restricting their access" (Teacher 3). "Institutions cannot always provide paid resources to students" (Teacher 4). Students shared the impact of cost. "I cannot afford advanced AI features, so I miss out on key functionalities" (Student 3). "Financial constraints make it hard to compete with peers who have full access" (Student 4). These cost barriers create inequities in learning experiences.

Language and Cultural Limitations

AI tools were often found to favor English, limiting their usefulness in local contexts. "AI systems do not interpret Bangla text accurately, reducing their applicability" (Teacher 7). "Cultural context is often ignored, which affects relevance" (Teacher 6). Students also reported difficulties. "Assignments in Bangla are misinterpreted or mistranslated by AI" (Student 5). "The tools are not designed with our local curriculum in mind" (Student 9). These language and cultural limitations restrict equitable learning outcomes.

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Capacity and Readiness

The study revealed that both faculty and students face significant challenges in AI adoption due to limited skills, insufficient training, and inadequate infrastructure. Participants emphasized that without continuous professional development and upgraded facilities, AI integration cannot be effective. Addressing capacity and readiness gaps is essential for responsible and sustainable use of AI in higher education.

Faculty Skill Gaps

Teachers reported lacking the necessary skills to guide students effectively. "I discourage students from using AI because I am not trained properly myself" (Teacher 2). "We need formal training before we can teach responsibly" (Teacher 8). Students observed similar limitations. "Some teachers don't know how to use AI themselves, which makes it harder for us to learn" (Student 3). "Without guidance, we often use AI incorrectly" (Student 10). Overall, insufficient faculty expertise hinders proper AI implementation.

Student Preparedness

Teachers highlighted that student readiness varies widely across disciplines. "Engineering students can navigate AI tools easily, but others struggle" (Teacher 3). "Not all students have the skills to use AI responsibly" (Teacher 2). Students confirmed this disparity. "Many of us are not trained to use AI for assignments or research" (Student 9). "We rely on trial and error, which is inefficient and risky" (Student 4). Uneven preparedness limits equitable learning outcomes.

Infrastructure Limitations

Teachers emphasized that outdated or insufficient infrastructure restricts AI adoption. *"Many labs are not equipped to support advanced AI tools"* (Teacher 4). *"Internet speed and hardware issues prevent proper use of AI"* (Teacher 6). Students reflected similar frustrations. *"We don't have enough computers or reliable internet to access AI effectively"* (Student 5). *"Even when we have tools, slow systems reduce learning efficiency"* (Student 7). Poor infrastructure acts as a major barrier to AI integration.

Discussion

Our results indicate a profound lack of governance for regulating AI policy across higher education institutions in Bangladesh and confirm previous research that identified such policy voids and resulting governance ambiguities [50]. The lack of a national AI policy framework in higher education, in addition to scattered institutional responses and low policy awareness, highlights a pressing need for a coherent policy response [51]. This lack of governance mimics international trends where new applications of technology are outpacing the regulatory frameworks and mechanisms to oversee them, generating uncertainty surrounding both responsibility and implementation. Decentralization of governance responsibility within institutions serves to also complicate the operationlization of using AI and underscores the need for defined roles and clear lines of accountability [52,53].

Moral and academic integrity concerns arose as key issues, including increased risk of plagiarism, and a loss of developed critical thinking skills, resulting from untempered and inconsistent use of AI. These findings echo the international evidence, which highlights that AI-tools, albeit powerful, may compromise academic integrity if not accompanied by transparent standards [54,55]. These ethical issues are compounded by the elusive nature of AI outputs and complex attribution of responsibility when AI has been found to err. The concerns expressed by participants about loss of critical engagement highlight this longer-term impact of AI on intellectual independence, a challenge that is an issue of curricular reform and ongoing pedagogical innovation [56,57]

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Privacy and security concerns emerged as salient due to larger national and global concerns about AI systems in education. However, uncontrolled access to sensitive academic information, cybersecurity issues, and the opaque interest-value chain of the academic data used for AI content creation may risk striking a blow to AI trust. This dimension is also in line with the UNESCO guideline for the ethical use of AI that includes data protection as well as privacy safeguards [58,59].

Inequities were confirmed, signifying the digital divide in the hinterland and deprived parts of Bangladesh. Inequalities in internet connectivity, infrastructure, affordability of AI tools, language, and cultural relevancy create challenges for inclusive AI supported education. Such results support the needs for specialized policies, and we further recommend targeted efforts on infrastructure bottlenecks, culturally sensible AI advances, and inclusion of underrepresented groups are engaged in developing and executing policy. Without reckoning with these dimensions of inequity, AI can widen this gaping hole rather than bridging it [60–62].

Lack of faculty and student capacity and readiness were significant barriers. Poor training, disparity of technical skills, and lack of infrastructure detriment the integration of AI, and perpetuate misuse. The demand by participants for ongoing professional development is also echoed in international best practices promoting long-term capacity building activities to prepare teachers and deliver ethical and responsible AI education [63]. Infrastructure progress, such as ubiquitous internet connectivity and updated hardware, are essential-prerequisite for the equitable and scalable adoption of AI [64].

This study is qualitative in nature describing from the stakeholders' point of view in the higher education environment of Bangladesh and so may not be generalizable. However, it does address an essential research gap by foregrounding the experiences of those impacted by the AI policy vacuum. Future research might develop in the quantitative direction and include cross-country or cross-institutional comparisons.

Recommendations have been issued to develop a national AI policy for higher education and it should be rapidly crafted as moral clauses, data privatey and governance need to be framed on the same. Institutional uniform internal guidelines based on country systems are needed to guaranty consistency and equity. Programmes to build capacity should be considered, such as regular training for teachers and AI literacy among students. Policy makers need to work to redress these infrastructural inequities, and advance culturally sensitive AI tools that can help close the linguistic and socio-economic divide. Last but not least, awareness campaigns that promote the knowledge of international de facto AI frameworks and ethical standards can empower stakeholders to seek ethic critiques of AI implementation.

These findings underline the potential of AI for the Bangladeshi tertiary education system, and posit that AI for higher education has to unfold within comprehensive, ethical and inclusionary policy interventions that confront governance, capacity, equity and integrity considerations simultaneously.

Conclusion

The findings of this work reveal the immediate necessity of AI policy-making in higher education in Bangladesh to fill governance voids, tackle ethical issues, mitigate data security threats, and overcome inequalities of access as well as capacity issues. Lack of unified national and institutional regulations has resulted in inconsistencies and uncertainties in AI application, which threaten academic integrity and fairness. The trustworthiness of businesses using unregulated AI is in question, with cases of plagiarism, bias and a lack of accountability all thrown up by AI decision-making. Furthermore, systemic digital divides and infrastructural shortcomings serve to impede equitable access to AI-augmented learning, affecting disadvantaged students at a disproportionate rate. Resistance in capacity by faculty and students also hinder responsible AI adoption.

The results highlight significant policy challenges: national regimes should offer clear direction on AI governance, ethics, data privacy, and equal access. Organisational policies based on these frameworks are required in order to maintain an equitable application and assessment. Not

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surprisingly, teacher and learner capacity building with a focus on on-going professional development and AI literacy is fundamental to prepare individuals for AI. Infrastructure investments that enable culturally relevant AI is what policymakers should "fantasize about" in order to combat the digital divide and narrow the learning gap, she adds.

The next step is to quantitatively assess policy effectiveness, with cross-national comparative studies that can serve as reference to the case of Bangladesh. Longitudinal research that tracks how academic integrity and educational equity as policy interventions impact sustainable AI governance is another fruitful path to pursue. If these complex challenges are addressed, Bangladesh could unlock AI's transforming effect to improving quality of higher education, equity, and innovation.

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