

Generative AI for Inclusive Higher Education: Evaluating an inclusive education toolkit for improving participation in Bangladeshi HE and TVET

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Abstract. Generative Artificial Intelligence (GenAI) has the potential to improve accessibility and learner support within higher education. However, its successful adoption requires appropriate institutional governance, capacity building, and ethical implementation. While existing studies have primarily focused on the educational applications of GenAI, comparatively little evidence exists on how collaborative capacity-building initiatives promote responsible and inclusive institutional adoption. This paper presents a mixed-methods evaluation of a British Council Going Global Partnerships project that extended an Inclusive Education Toolkit through the integration of ethical GenAI guidance, accessibility-aware teaching practices, and institution-specific co-design activities for Higher Education (HE) and Technical and Vocational Education and Training (TVET) institutions in Bangladesh.

The evaluation combined post-project survey responses from 43 participants with institution-specific adaptation strategies developed during collaborative workshops. The findings indicate strong participant agreement regarding the relevance of the toolkit (88.4%), the usefulness of the ethical GenAI guidance (83.7%), institutional applicability (83.7%), and intentions to implement changes in future professional practice (97.7%). Furthermore, participating institutions translated the toolkit into locally relevant governance frameworks, accessibility initiatives, learner-support mechanisms, and responsible AI implementation strategies.

The findings demonstrate that combining collaborative capacity building with practical educational resources can strengthen both professional

development and institution-level readiness for responsible GenAI adoption. The proposed approach offers a flexible framework that can support responsible and inclusive AI adoption across diverse higher education and TVET contexts.

Keywords: Generative Artificial Intelligence · Inclusive Education · Higher Education · Ethical AI · Accessibility · Capacity Building

1 Introduction

Generative Artificial Intelligence (GenAI) is rapidly transforming higher education by supporting teaching, assessment, learner engagement, and personalised educational experiences [2,8]. At the same time, concerns surrounding academic integrity, accessibility, transparency, privacy, and algorithmic bias have highlighted the need for responsible institutional adoption [9,1]. Related research has similarly emphasised explainable and privacy-preserving personalised AI [6], privacy-preserving human-centred AI [5], and inclusive AI-enabled digital-human modelling for accessibility and inclusion [4]. Consequently, universities increasingly require practical frameworks that enable ethical AI integration while promoting equitable and inclusive learning environments [1,3].

Although extensive research has explored the pedagogical applications of GenAI, very little attention has been given to how collaborative capacity-building initiatives support institution-level readiness for responsible AI adoption [3]. Existing studies primarily focus on AI technologies, student perceptions, or individual teaching interventions, with limited evidence on how practical educational resources influence institutional governance, professional practice, and local implementation strategies. These challenges are particularly relevant in developing-country contexts, where institutional capacity, accessibility, and educational equity remain important considerations [7].

To address this gap, the British Council Going Global Partnerships project “*Generative AI for Good: Widening Access to Tertiary Education for Disadvantaged, Less Privileged and Excluded Individuals and Communities in Bangladesh*” established an international collaboration between Nottingham Trent University (United Kingdom), the American International University-Bangladesh (AIUB), Bangladesh University of Engineering and Technology (BUET), Jahangirnagar University (JU), King Fahd University of Petroleum and Minerals (KFUPM), and associated partners. The project extended an existing Inclusive Education Toolkit by incorporating ethical GenAI guidance, accessibility-aware teaching practices, and institution-specific co-design activities to support inclusive Higher Education (HE) and Technical and Vocational Education and Training (TVET) in Bangladesh.

This paper evaluates the impact of the project using a mixed-methods approach combining post-project survey responses from 43 participants with institution-specific adaptation strategies developed during collaborative workshops. The evaluation examines participant perceptions of the toolkit, ethical GenAI readiness, professional confidence, institutional relevance, and future implementation

intentions, while also analysing how participating universities translated the toolkit into locally relevant governance and implementation strategies.

The main contributions of this paper are:

- We present a mixed-methods evaluation of an international capacity-building initiative for responsible and inclusive GenAI adoption in Bangladeshi HE and TVET institutions.
- We analyse participant perceptions of toolkit relevance, professional confidence, ethical GenAI readiness, institutional applicability, and intended practice change following the intervention.
- We compare institution-specific adaptation strategies, identifying common governance priorities and locally contextualised implementation approaches that can inform future responsible AI adoption in higher education.

2 Methodology

2.1 Study Design

A mixed-methods evaluation was conducted following the final dissemination workshop to assess participants' perceptions of the Inclusive Education Toolkit and the institution-specific adaptation strategies developed during the project. The evaluation involved 43 participants representing public and private HE and TVET institutions across Bangladesh, including academic staff, researchers, institutional administrators, and educational support personnel. The evaluation formed part of a three-workshop capacity-building programme. Participant feedback was collected following the final workshop, which focused on dissemination of the completed toolkit and institution-specific adaptation planning. Participation in the evaluation was voluntary, and all survey responses were anonymised prior to analysis.

The participant group covered institutions including the American International University-Bangladesh, Bangladesh University of Engineering and Technology, Jahangirnagar University, King Fahd University of Petroleum and Minerals, and Nottingham Trent University, representing a combination of institutional and professional perspectives. This institutional coverage enabled the evaluation to capture perspectives across different educational and organisational contexts rather than from a single institution or professional role.

Two complementary sources of evidence were collected:

- A structured post-project survey comprising Likert-scale, multiple-choice, and open-ended questions. The survey examined five main dimensions: perceived relevance of the Inclusive Education Toolkit, professional confidence in inclusive educational practice, understanding of ethical and responsible GenAI use, perceived institutional applicability, and intended changes in future professional practice. Likert-scale items used a response scale ranging from “Strongly Disagree” to “Strongly Agree”, while open-ended questions enabled participants to describe anticipated changes to their professional practice and institutional implementation priorities.

- Institution-specific adaptation strategies developed during the collaborative workshops, documenting how participating universities proposed to translate the toolkit into locally relevant governance, accessibility, and implementation practices.

Participation in the evaluation was voluntary, and participants were informed about the purpose of the evaluation and the intended use of the collected data prior to participation. Informed consent was obtained from participants, and all survey responses were anonymised prior to analysis.

2.2 Intervention

The intervention comprised three workshops conducted between the duration of the project. The first introduced participants to inclusive education principles, Universal Design for Learning (UDL), and the existing toolkit [7]. The second focused on co-designing ethical GenAI guidance covering responsible AI use, academic integrity, accessibility, privacy, transparency, and institutional governance [2,9]. The final workshop disseminated the completed toolkit, supported institution-specific adaptation planning, and collected participant feedback.

The resulting toolkit integrates guidance on inclusive curriculum design, accessible assessment, assistive technologies, open educational resources, responsible GenAI use, and gender-inclusive educational practice [2,7]. These principles align with broader developments in explainable, privacy-preserving, human-centred, and inclusive AI [6,5,4].

2.3 Data Analysis

Qualitative survey responses and institutional adaptation strategies were analysed using thematic analysis to identify recurring themes relating to accessibility, inclusive teaching, ethical AI, institutional governance, capacity building, and educational equity. Institution-specific adaptations developed by AIUB, BUET, and JU were subsequently compared to identify common priorities and context-specific implementation strategies. Finally, quantitative and qualitative findings were triangulated to provide an integrated evaluation of participant perceptions and institutional outcomes.

3 Results

The evaluation combined survey findings with institution-specific adaptation strategies to assess participant perceptions of the Inclusive Education Toolkit and its potential role in supporting responsible Generative Artificial Intelligence adoption within Bangladeshi HE and TVET institutions. Survey responses provide evidence of participants' perceptions of the toolkit and the intervention, while the institutional adaptations demonstrate how participating universities proposed to translate these resources into locally relevant implementation strategies.

3.1 Survey Findings

The survey examined participants' perceptions of the Inclusive Education Toolkit, ethical GenAI readiness, institutional applicability, and intended changes in professional practice. Overall, respondents reported strong support across all evaluation themes, indicating that the project enhanced both individual confidence and institutional readiness for responsible AI adoption.

Capacity Building and Professional Confidence Strengthening professional capacity for inclusive educational practice was a primary objective of the project. Overall, 88.4% of respondents agreed or strongly agreed that the Inclusive Education Toolkit was relevant to the Bangladeshi HE and TVET context (Fig. 1), demonstrating strong acceptance across participating institutions.

Participants reported increased confidence in inclusive curriculum design, accessibility-aware teaching, support for disadvantaged learners, and the responsible use of Generative AI. Qualitative responses further indicated a greater awareness of learner diversity and the importance of embedding accessibility throughout curriculum design, assessment, and digital learning resources.

These findings suggest that the capacity-building activities equipped participants with practical strategies for implementing more inclusive educational practices within their own institutional contexts.

Ethical Generative AI Readiness Promoting the responsible use of Generative AI represented another central objective of the project [2,9]. Overall, 83.7% of respondents agreed or strongly agreed that the ethical GenAI guidance provided improved their understanding of how AI can be applied ethically, safely, and inclusively within teaching and learning (Fig. 2).

Open-ended responses consistently highlighted themes of academic integrity, institutional governance, transparency, privacy, accessibility, and equitable access to AI-enabled learning. Participants also recognised the importance of institutional policies and continuing professional development to support responsible AI adoption [1]. Overall, the findings indicate that participants viewed ethical GenAI as an institutional responsibility extending beyond the technical use of AI tools, consistent with emerging recommendations for institutional AI governance [1,9].

Institutional Readiness and Future Professional Practice Survey responses demonstrated strong support for wider institutional adoption of the Inclusive Education Toolkit. Overall, 83.7% of participants agreed that the toolkit could inform institutional policy and strategic planning (Fig. 3), indicating that respondents considered the project outputs applicable beyond individual classroom practice.

The strongest indication of potential future practice change was participants' intention to modify their professional practice. Overall, 97.7% reported that they planned to implement at least one change following participation in the

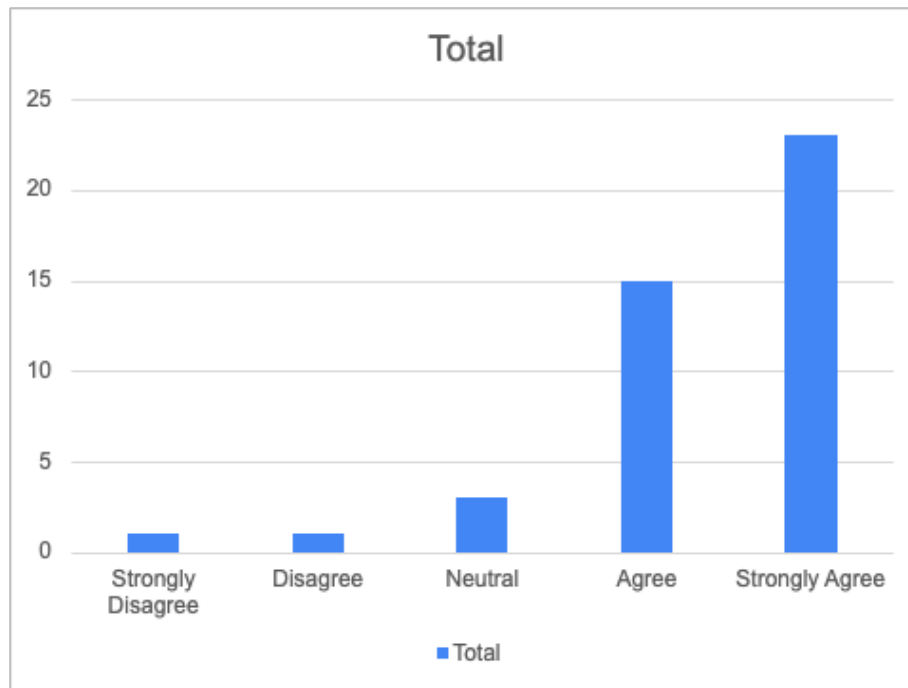


Fig. 1. Participant perceptions of the relevance of the Inclusive Education Toolkit within Bangladeshi HE and TVET institutions.

project (Fig. 4). Frequently proposed actions included redesigning learning materials, adopting more inclusive teaching approaches, integrating accessibility into assessment, and applying ethical principles when using AI-supported educational technologies.

Participants consistently identified institutional leadership, governance, staff development, and policy support as key enablers of sustainable implementation. Together, these findings indicate strong perceived organisational readiness and participant intention to support responsible and inclusive GenAI adoption.

3.2 Institutional Adaptation Outcomes

Beyond participants' perceptions, the collaborative workshops demonstrated how the Inclusive Education Toolkit could be adapted to different institutional contexts. Although AIUB, BUET, and JU shared the common objective of promoting inclusive education and responsible GenAI use, each institution prioritised different aspects of governance, accessibility, learner support, and institutional development.

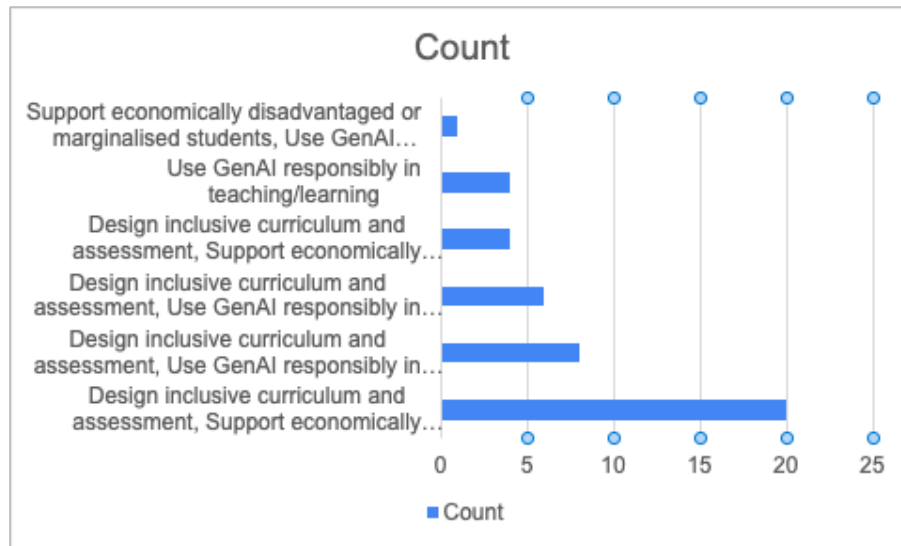


Fig. 2. Participant perceptions of the usefulness of the ethical Generative AI guidance developed during the project.

Governance and Responsible AI Policy Responsible AI governance emerged as a common priority across all participating institutions [9,1], although each adopted a different implementation strategy. AIUB proposed the most comprehensive governance framework, integrating internationally recognised ethical AI principles with emerging national regulations through an AI Policy Oversight Committee (AIPOC) supported by continuous quality improvement and policy review mechanisms. BUET focused on a university-wide GenAI policy centred on academic integrity, transparency, and department-specific guidance, while JU emphasised culturally contextualised AI governance supported by Bangla-first educational resources and collaborative policy development involving both staff and students.

Despite these differences, all three institutions recognised governance as a fundamental prerequisite for sustainable and responsible GenAI adoption [1,3].

Inclusive Learning and Student Support Although all participating institutions prioritised educational inclusion, the proposed adaptations reflected different approaches to supporting diverse learner populations. BUET prioritised widening educational access through AI-supported bridge programmes, adaptive preparatory courses, community learning hubs, open educational resources, and low-cost AI tutoring for disadvantaged and rural learners. JU focused on strengthening learner support within its residential university environment through Bangla-first AI tutoring, hall-based learning support, AI-assisted research guidance, and assistive technologies. In contrast, AIUB emphasised

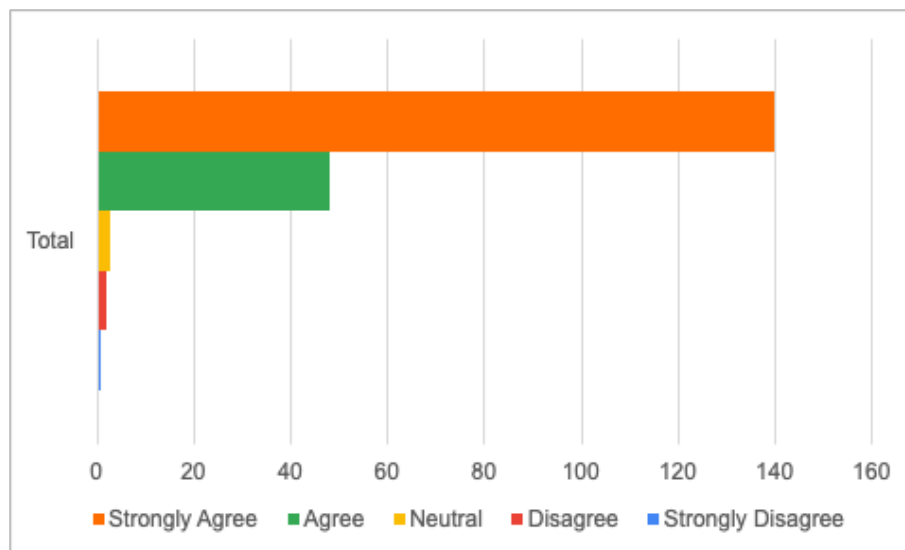


Fig. 3. Participant perceptions of the institutional relevance of the Inclusive Education Toolkit.

institution-wide implementation by embedding inclusive teaching practices, accessibility, and staff capacity building within curriculum development and organisational planning.

Together, these adaptations demonstrate complementary approaches to achieving inclusive education, ranging from learner-centred support to institution-wide capacity building.

Accessibility, Equity and Institutional Development Accessibility and educational equity were consistently identified as core implementation priorities. AIUB adopted an accessibility-by-design approach aligned with WCAG 2.1 AA, embedding accessibility principles within curriculum design and digital learning resources. BUET focused on assistive technologies, AI-generated open educational resources, speech-to-text and text-to-speech systems, and community-based initiatives to improve equitable access to higher education. JU similarly prioritised Bangla-centric accessibility, AI-supported research accessibility, transparent financial assistance, and culturally appropriate learning support.

Although the proposed implementation strategies differed across institutions, all three emphasised accessibility, educational equity, and responsible AI as foundations for sustainable institutional transformation.

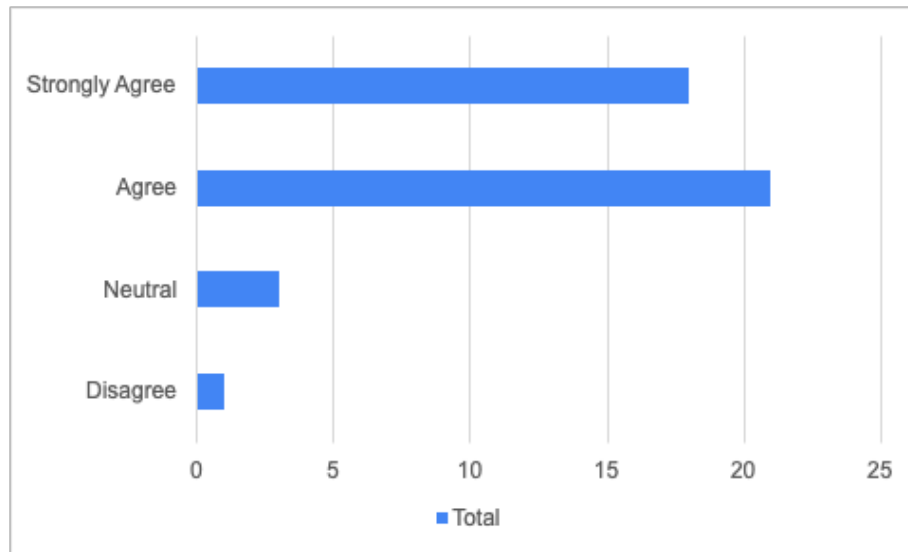


Fig. 4. Participants' intention to modify future professional practice following completion of the project.

4 Implications and Recommendations

The findings presented in the previous section demonstrate that the project achieved its objectives through two complementary mechanisms. Firstly, the survey-based evaluation provided evidence of positive participant perceptions regarding the relevance of the Inclusive Education Toolkit, increased professional confidence, ethical GenAI readiness, institutional relevance, and intended changes in future practice. Secondly, the institutional adaptation strategies demonstrated how participating universities translated these educational resources into locally relevant implementation plans. Together, these findings provide several practical implications for higher education institutions seeking to adopt responsible GenAI while promoting inclusive educational practice.

4.1 Implications for Higher Education and TVET

The evaluation suggests that inclusive educational practice requires more than merely providing digital tools or AI-supported learning resources [2,7]. Participants consistently recognised that responsible GenAI adoption requires institutional policy, professional development, accessibility, ethical oversight, and sustained organisational commitment. This perspective is consistent with emerging approaches that emphasise explainability and privacy-preserving personalisation [6], human-centred and privacy-preserving AI [5], and accessible and inclusive AI-enabled digital-human systems [4]. Together, these findings reinforce the im-

Table 1. Comparison of Institution-Specific Adaptation Priorities Identified During the Co-design Workshops

Adaptation Theme	AIUB	BUET	JU
AI Governance and Policy Development	High	Medium	Medium
Accessibility and Inclusive Learning Design	High	Medium	High
Learner Support and AI Tutoring	Low	High	High
Community Engagement and Outreach	Low	High	Low
AI-Assisted Teaching and Learning	Medium	High	Medium
Localisation and Context-Aware Adaptation	Low	Low	High
Professional Capacity Building	High	Medium	Medium
Educational Equity and Widening Participation	Medium	High	High

portance of embedding AI adoption within broader institutional strategies for inclusive teaching and educational equity.

The evaluation also highlights the value of collaborative capacity building. Rather than producing isolated educational resources, the workshops created opportunities for participants to exchange institutional experiences, co-design practical guidance, and develop locally relevant implementation strategies. This collaborative process appears to have strengthened institutional ownership and increased the likelihood of sustained adoption beyond the project’s lifetime.

4.2 Recommendations for Institutional Adoption

Based on the combined survey findings and institutional adaptations, several recommendations emerge for universities planning similar initiatives.

Firstly, institutions should establish clear governance structures to support large-scale deployment of GenAI within teaching and learning. The governance frameworks proposed during the workshops demonstrate that policy development, ethical oversight, data protection, and continuous quality improvement should form the foundation of responsible AI adoption.

Secondly, professional development should accompany technological deployment. Participants consistently highlighted the importance of staff training, institutional guidance, and practical support materials to ensure that educators are confident in applying inclusive educational practices alongside responsible AI.

Thirdly, accessibility should be embedded throughout curriculum design, learning resources, assessment, and digital platforms rather than introduced as an additional support service. The institution-specific adaptations demonstrated

that accessibility considerations can be integrated within governance, teaching, learner support, and resource development simultaneously.

Finally, institutions should adopt a continuous evaluation process that combines stakeholder feedback with regular reviews of institutional policies and practices. Such iterative evaluation enables universities to respond to emerging technologies, evolving regulatory requirements, and changing learner needs while maintaining responsible and inclusive educational practice.

4.3 Transferability to Similar Educational Contexts

Although this project was undertaken within Bangladeshi HE and TVET institutions, the overall evaluation suggests that the proposed approach has wider applicability. Many of the challenges identified during the workshops—including accessibility, institutional readiness, staff capacity, ethical AI governance, and equitable educational participation are common across universities in low- and middle-income countries as well as institutions undergoing digital transformation.

Rather than prescribing a single implementation model, the project encouraged participating institutions to develop context-sensitive adaptations that reflected their own organisational priorities and learner populations. This balance between a common educational framework and local institutional adaptation offers a potentially transferable model for future international capacity-building initiatives focused on responsible AI use and inclusive education.

Future work will extend the present evaluation longitudinally by examining whether the intended changes identified in the post-project survey translate into sustained professional and institutional practice. Follow-up evaluation will assess the implementation of institution-specific adaptation strategies, changes in teaching and accessibility practices, adoption of responsible GenAI policies and governance mechanisms, and the sustainability of these changes over time. Where implementation has progressed sufficiently, subsequent evaluation should also examine learner-level outcomes to determine whether the observed acceptability, readiness, and institutional planning ultimately translate into measurable educational impact. This longitudinal approach will enable the distinction between immediate participant acceptability, institutional implementation, and longer-term educational outcomes.

5 Limitations

This study has several limitations that should be considered when interpreting the findings.

Firstly, the evaluation was conducted immediately following the project activities and therefore reflects participants' perceptions of the Inclusive Education Toolkit and the proposed institutional adaptation strategies rather than their long-term implementation or educational impact. No pre-intervention baseline or longitudinal follow-up measures were available within the present evaluation.

Although the survey provides valuable evidence regarding participant acceptability, confidence, perceived institutional readiness, and intended future practice, these findings cannot establish whether the reported intentions subsequently resulted in sustained changes in professional practice or learner outcomes. Longitudinal follow-up is therefore required to evaluate actual implementation and educational impact.

Secondly, the institutional adaptation outcomes analysed in this study represent strategic implementation plans developed collaboratively during the workshops rather than fully deployed institutional initiatives. Consequently, the findings should be interpreted as evidence of institutional planning and readiness rather than completed organisational transformation. Future work should investigate how these proposed adaptations were implemented, refined, and evaluated within participating institutions over time.

Finally, the evaluation was conducted in Bangladeshi HE and TVET institutions and included 43 participants from multiple universities and other educational stakeholders. While this context provides valuable insights into responsible GenAI adoption within developing-country settings, institutional priorities, governance structures, and educational policies will differ across countries. Replication in other educational contexts, together with longitudinal evaluation of student outcomes, institutional policy development, and sustained adoption, would further strengthen the expansion of the proposed approach in wider developing-country settings.

6 Conclusion

This paper presented the evaluation of an Inclusive Education Toolkit developed through a British Council Going Global Partnerships project to support responsible GenAI adoption within Bangladeshi HE and TVET institutions. The study combined survey findings with institution-specific adaptation strategies to examine both participant perceptions and institutional readiness for responsible and inclusive AI adoption.

The evaluation demonstrated strong support for the toolkit's relevance, ethical GenAI guidance, institutional applicability, and suggested that it would influence future professional practice. Furthermore, both planned and already implemented institutional adaptations showed that participating universities are successfully translating common principles of responsible AI, accessibility, and inclusive education into context-specific governance and implementation strategies.

Overall, the findings demonstrate that collaborative international capacity-building initiatives can support both professional development and institutional planning for the responsible adoption of AI. Rather than promoting a single implementation model, the proposed approach provides a flexible framework adaptable to diverse institutional contexts while maintaining core principles of accessibility, educational equity, and ethical AI use.

Future work will focus on longitudinal evaluation of institutional implementation, assessment of both educational and organisational outcomes, and validation of the proposed approach across additional higher education and TVET contexts.

Data Availability The data supporting the findings of this study are available from the corresponding author upon reasonable request.

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