

Original Article

Teachers' Perceptions and Utilization of Generative AI in Assessment and Feedback: Evidence for Policy Development in Basic Education

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Abstract. The increasing integration of generative artificial intelligence (GenAI) in education presents both opportunities and challenges for assessment and feedback, particularly in basic education, where empirical evidence remains limited. This study examined teachers' perceptions and utilization of GenAI for assessment and feedback, identified key concerns and institutional gaps, and developed policy recommendations for its responsible and pedagogically sound integration. A convergent parallel mixed-methods design was employed, involving 39 basic education teachers selected through stratified proportionate sampling. Quantitative data were collected using a structured survey and analyzed using means, standard deviations, one-way ANOVA, and Pearson correlations, while qualitative data were analyzed using thematic analysis. Results revealed that teachers perceived GenAI as highly useful and appropriate for assessment ($M = 3.32$), yet its use for personalized, constructive feedback remained moderate ($M = 3.05$). No significant differences were found across age, sex, and educational attainment ($p > .05$), indicating consistent perceptions and practices across demographic groups. A strong positive relationship ($r = 0.71$, $p < .05$) was identified between perception and utilization, highlighting the role of teacher beliefs in AI adoption. Qualitative findings underscored concerns about academic integrity, reliability, fairness, overreliance, and the need for human oversight, as well as institutional gaps, including unclear policies, insufficient training, and limited support systems. The integration of findings suggests that while teachers are receptive to GenAI, its effective implementation requires comprehensive policy frameworks, sustained professional development, ethical guidelines, and institutional support mechanisms. This study contributes to theory by reinforcing perception-utilization linkages in technology adoption and to practice by offering evidence-based policy recommendations that promote responsible, equitable, and pedagogically grounded use of AI in assessment.

Keywords: *Generative artificial intelligence; Assessment and feedback; Teacher perceptions; AI policy; Basic education*

Generative artificial intelligence (GenAI) has increasingly found its way into educational settings, prompting heightened interest among scholars and practitioners, particularly regarding its role in assessment and feedback practices. Studies increasingly recognize GenAI's potential to provide timely,

accessible feedback and assist educators in managing workload demands, while also raising concerns about instructional quality, trustworthiness, and pedagogical coherence. For instance, large-scale research comparing GenAI-generated feedback with traditional teacher feedback found that students appreciate AI's accessibility but still regard teacher feedback as more reliable and contextually grounded (Henderson et al., 2025). Likewise, systematic reviews of teacher perceptions indicate that although many educators see promise in AI for supporting personalized learning and formative assessment, issues related to ethics, accountability, and the need for clear institutional guidelines remain significant challenges (Aco et al., 2025). These developments highlight the complex realities of integrating AI into classroom practice, where innovation must be carefully balanced with established educational principles. In this regard, the present study is anchored in Sustainable Development Goal 4 (SDG 4), which emphasizes inclusive and equitable quality education, by examining how GenAI can be responsibly utilized to enhance assessment and feedback while upholding fairness, integrity, and sound pedagogical practices.

Despite growing research on AI in higher education and technology-enhanced learning, there is a notable gap in studies focusing specifically on basic education teachers and their perceptions of AI-mediated assessment and feedback. Teacher perceptions are crucial because educators' beliefs about AI's usefulness, ease of use, and pedagogical alignment significantly influence adoption and instructional decision-making (Singerin et al., 2025; Sholikhah et al., 2025). Research suggests that many teachers perceive AI as beneficial for enhancing formative assessment processes and supporting differentiated instruction. However, they also express concerns about reliability, fairness, and the readiness of institutional frameworks to guide responsible use. These concerns align with broader debates on the ethical and equitable application of AI in education, where issues of academic integrity, data privacy, and equitable access must be addressed to ensure that AI tools foster, rather than undermine, quality and inclusive education (Sholikhah, Zamzami, & Sulistyaningsih, 2025).

This study aims to examine the perceptions of basic education teachers regarding the use of generative artificial intelligence (GenAI) in assessment and feedback, with the overarching goal of developing evidence-based policy recommendations that ensure its ethical, equitable, and pedagogically sound integration in educational assessment aligned with Sustainable Development Goal 4 (SDG 4). It specifically seeks to describe the respondents' profile in terms of age, sex, and highest educational attainment; determine the extent to which teachers perceive GenAI as useful and appropriate for formative and summative assessment; examine differences in these perceptions when grouped according to profile variables; assess the extent to which teachers utilize GenAI tools in providing personalized and constructive feedback; identify differences in utilization across profile variables; determine the relationship between teachers' perceptions and their utilization of AI tools; explore teachers' concerns regarding academic integrity, fairness, and reliability in AI-assisted assessment; identify institutional and policy gaps that hinder responsible and effective AI integration; and integrate quantitative and qualitative findings as a basis for proposing policy recommendations that promote responsible, equitable, and pedagogically sound use of GenAI in basic education assessment and feedback.

The contribution of this study lies in its focus on basic education teachers—a group that is foundational to early learning yet underrepresented in AI research—and in its mixed-method design that captures both quantitative trends and qualitative insights. By foregrounding teachers' lived experiences across elementary, junior high, and senior high school levels, the study adds empirical depth to the discourse on AI in assessment and provides actionable recommendations for educators, administrators, and policymakers. Ultimately, the findings aim to support the development of responsive professional development, clear policy frameworks, and ethical guidelines that enhance the responsible integration of GenAI in educational assessment and feedback within basic education contexts.

Methodology

Research Design

This study employed a convergent parallel mixed-methods research design to generate a comprehensive understanding of basic education teachers' perceptions and utilization of generative artificial intelligence (GenAI) in assessment and feedback. This design enabled the simultaneous collection of quantitative and qualitative data, allowing the researcher to examine both the measurable extent of teachers' perceptions and practices and the underlying meanings of their experiences and concerns. The quantitative component assessed levels of perceived usefulness, appropriateness, and utilization of GenAI, with results presented in systematically organized, reader-friendly tables to enhance clarity and accessibility.

The qualitative component, on the other hand, used open-ended items embedded in a written survey (rather than interviews) to capture rich, contextually grounded insights on issues such as academic integrity, fairness, reliability, and institutional or policy gaps. This approach was deliberately adopted to ensure consistency in data collection, maximize participation, and enable respondents to provide reflective, diverse written responses. Despite the absence of interviews, substantial qualitative data were generated and rigorously analyzed using thematic analysis, supported by systematic coding procedures to ensure credibility, accuracy, and integrity of the findings.

Both datasets were analyzed independently and subsequently integrated through aligned themes and meta-inferences, thereby establishing convergence, complementarity, and divergence in the results. Interpretations were carefully articulated and grounded in relevant literature, thereby strengthening the explanatory power, validity, and scholarly contribution of the study.

Research Participants

The respondents in the study were basic education teachers from a private higher education institution in Laguna, Philippines, representing the elementary, junior high school (JHS), and senior high school (SHS) levels. To ensure proportional representation across these educational levels, stratified proportionate sampling was employed. From a total population of 80 teachers, a sample of 39 respondents was determined using the largest-remainder method. Subsequently, simple random sampling was applied within each stratum to select the participants, resulting in 7 teachers from the elementary level, 6 from JHS, and 26 from SHS.

While the study was conducted within a single institution, the use of stratified proportionate and random sampling techniques strengthened internal validity by ensuring that the sample accurately reflected the composition of the teacher population across grade levels. Moreover, the relatively homogeneous structure of basic education systems and teaching roles across comparable private institutions supports the analytical generalizability of the findings. Thus, the results are intended to inform similar educational contexts rather than claim broad population generalization, while still providing reliable quantitative insights grounded in sound sampling procedures.

Research Instrument

A researcher-developed instrument was used to generate both quantitative and qualitative data consistent with the study's objectives. The quantitative component consisted of a 20-item questionnaire designed to measure teachers' perceptions of the usefulness and appropriateness of generative artificial intelligence (GenAI) for formative and summative assessment, as well as their level of utilization in providing personalized, constructive feedback. All items were measured using a four-point Likert scale (1 = strongly disagree to 4 = strongly agree) to ensure response consistency and to eliminate central tendency bias.

The qualitative component comprised four (4) open-ended questions embedded within the same written survey form, intentionally designed to capture participants' in-depth perspectives on issues such as academic integrity, fairness, reliability of AI-generated outputs, and institutional or policy gaps in AI integration. No interviews were conducted. This approach was deliberately chosen to ensure efficiency, maximize respondent participation, and provide a uniform data-collection mode, particularly given teachers' time constraints. Moreover, written responses allowed participants to reflect and articulate their experiences thoughtfully while enabling the collection of diverse insights across a broader sample. Although interviews may yield deeper narratives, the use of open-ended survey items ensured consistency, reduced interviewer bias, and facilitated systematic analysis across all respondents.

To ensure the instrument's psychometric soundness, rigorous validation and reliability procedures were undertaken. Face and content validity were established through expert evaluation by five (5) specialists in educational research, assessment, and educational technology. Using Lawshe's Content Validity Ratio (CVR), all items achieved values ranging from 0.80 to 1.00, exceeding the minimum acceptable threshold ($CVR \geq 0.78$), thereby confirming that the items were essential and representative of the constructs being measured. Revisions were made in response to expert feedback to enhance clarity, alignment, and coverage of constructs.

Subsequently, the instrument was pilot-tested among college faculty members who were not among the actual

respondents to assess its internal consistency and reliability. The pilot test yielded a Cronbach's alpha coefficient of 0.93 for the overall instrument, indicating excellent reliability. In terms of subscales, the perception construct had an alpha of 0.91, while the utilization construct had an alpha of 0.89, both exceeding the recommended threshold of 0.70 for acceptable reliability in social science research.

Data Gathering Procedure

Prior to conducting the study, a formal request letter was submitted to the appropriate school authorities to obtain permission for data collection. Upon approval, coordination was established with the respective department heads to facilitate the orderly administration of the research instrument across the elementary, junior high school, and senior high school levels. The survey questionnaire was distributed through an online platform to ensure accessibility, efficiency, and wider reach among respondents. Before participation, respondents were provided with a brief orientation outlining the purpose of the study, the procedures involved, and the ethical considerations, including the voluntary nature of their participation and the confidentiality of their responses. Data collection was conducted over a designated period to ensure the consistency and completeness of responses. After all responses were retrieved, the data were systematically organized, encoded, and prepared for subsequent statistical and thematic analyses.

Data Analysis

Quantitative data were analyzed using descriptive and inferential statistics. The mean and standard deviation were computed to determine the extent of teachers' perceptions and utilization of GenAI in assessment and feedback. One-way analysis of variance (ANOVA) was employed to examine significant differences in perceptions and utilization across profile variables, such as age, sex, and highest educational attainment. Pearson product-moment correlation was used to determine the relationship between teachers' perceptions and their utilization of AI tools. Qualitative data were analyzed using thematic analysis, which involved coding responses, identifying recurring patterns, and generating key themes related to teachers' experiences, concerns, and recommendations. The integration of quantitative and qualitative findings provided a more holistic and robust interpretation of the data.

Ethical Considerations

The study adhered strictly to ethical standards in research involving human participants. Prior to participation, respondents were informed of the purpose, procedures, and voluntary nature of the study, and informed consent was obtained. Confidentiality and anonymity were ensured by excluding any identifying information from the dataset. All data were handled with utmost care and used solely for academic and research purposes in compliance with the provisions of the Data Privacy Act of 2012 (R.A. 10173). Participants were also assured that they could withdraw from the study at any point without any consequences, thereby upholding the principles of respect, beneficence, and integrity throughout the research process.

Results and Discussion

Profile of the Respondents in Terms of Age, Sex, and Highest Educational Attainment

The profile of the respondents reveals several salient patterns that provide important context for interpreting the study's findings. A substantial majority of the participants were young educators aged 21–30 years (76.92%), indicating that the teaching workforce in this sample is predominantly early-career. This suggests a cohort that is generally more exposed to and adaptable toward emerging technologies such as generative AI. In terms of sex, the sample is female-dominated (66.67%), reflecting the broader feminization trend in the teaching profession, particularly in basic education. Regarding educational attainment, most respondents hold a bachelor's degree (53.85%), while a considerable proportion have earned units in graduate studies (41.03%), indicating ongoing professional development but relatively limited completion of advanced degrees.

These findings imply that the respondents possess a foundational level of academic preparation and high potential for technological adaptability, given their age profile. However, the relatively low proportion of teachers with completed master's degrees (5.13%) may suggest a need for stronger capacity-building initiatives, particularly in specialized areas such as AI integration, assessment literacy, and data-informed pedagogy. From a policy and practice perspective, this highlights the importance of targeted professional development programs that are responsive to early-career teachers and bridge gaps in advanced competencies in AI-enabled assessment

Table 1. *Profile of the Respondents in Terms of Age, Sex, and Highest Educational Attainment*

Variable	Category	f	%
Age	Below 20 years old	4	10.26
	21–30 years old	30	76.92
	31–40 years old	1	2.56
	41–50 years old	1	2.56
	51 years old and above	3	7.69
Sex	Female	26	66.67
	Male	12	30.77
	Prefer not to say	1	2.56
Highest Educational Attainment	Bachelor's Degree	21	53.85
	Bachelor's Degree with MA/MS units	16	41.03
	Master's Degree	2	5.13

n=39

The results are consistent with recent studies in Scopus-indexed journals, which emphasize that younger teachers tend to demonstrate higher levels of openness and readiness toward educational technologies, including artificial intelligence (e.g., Bond et al., 2021; Scherer et al., 2019). Similarly, research by Seo et al. (2021) and Tan et al. (2025) indicates that teachers' adoption of AI tools is significantly influenced by their digital familiarity and ongoing professional learning, rather than solely by formal educational attainment. Moreover, studies have highlighted that while many teachers pursue graduate education, there remains a gap in AI-specific competencies and pedagogical integration, underscoring the need for institutional support and continuous training (Luan et al., 2022; Kasneci et al., 2023).

Overall, the demographic profile suggests that, while the respondents are well-positioned to engage with generative AI given their age and evolving qualifications, there is a critical need for structured institutional interventions to enhance their expertise. This includes integrating AI-related competencies in graduate programs, providing continuous professional development, and aligning teacher training with emerging demands in digital and AI-driven assessment practices.

Extent of Perceived Usefulness and Appropriateness of Generative AI for Formative and Summative Assessment Among Basic Education Teachers

Table 2 reveals that basic education teachers perceive generative AI as useful and appropriate for formative and summative assessment to a great extent ($M = 3.32$, $SD = 0.51$), indicating a generally strong acceptance of AI-assisted assessment practices. This overall finding suggests that teachers recognize the pedagogical value of generative AI in enhancing assessment quality, efficiency, and responsiveness in contemporary classrooms. Among the indicators, the highest-rated item is the belief that AI can complement, but not replace, teacher judgment in assessments ($M = 3.56$, $SD = 0.50$), highlighting a critical perspective where teachers view AI as a supportive tool rather than a substitute for professional expertise.

Table 2. *Extent of Perceived Usefulness and Appropriateness of Generative AI for Formative and Summative Assessment Among Basic Education Teachers*

Indicators	M	SD	VD/VI
As a teacher, I...			
believe generative AI can enhance the quality of formative assessment.	3.33	0.48	SA
consider generative AI useful for designing summative assessments.	3.31	0.47	SA
perceive generative AI as appropriate for providing timely feedback to students.	3.10	0.50	A
think generative AI can improve the accuracy and fairness of student assessments.	3.15	0.49	A
recognize the potential of generative AI to support differentiated instruction based on student needs.	3.46	0.55	SA
assume generative AI can save time in grading and assessment tasks.	3.31	0.57	SA
expect generative AI to help identify students' learning gaps more effectively.	3.28	0.56	SA
value AI's role in standardizing assessment procedures.	3.28	0.51	SA
acknowledge the relevance of AI for modern educational practices.	3.44	0.50	SA
agree that AI can complement, but not replace, teacher judgment in assessments.	3.56	0.50	SA
Composite Mean	3.32	0.51	PGE

Legend: 4.00 – 3.26 – Strongly Agree (SA)/ Perceived to a Great Extent (PGE); 3.25 – 2.51 – Agree(A)/ Perceived to a Moderate Extent (PME)
2.50 – 1.76 – Disagree (D)/ Perceived to a Less Extent (PLE); 1.75 – 1.00 – Strongly Disagree (SD)/ Not at all Perceived (NAP)

This aligns with recent studies emphasizing the importance of maintaining human oversight in AI-integrated

assessment systems to ensure ethical decision-making, contextual sensitivity, and professional accountability (Seo et al., 2021; Zawacki-Richter et al., 2019). Similarly, high ratings for supporting differentiated instruction ($M = 3.46$) and relevance to modern educational practices ($M = 3.44$) indicate that teachers value AI's capacity to personalize learning and align with 21st-century educational demands, corroborating findings by Holmes et al. (2021) and Kasneci et al. (2023), who noted that AI enhances adaptive learning and data-driven instruction.

Conversely, the lowest-rated indicator is the perception that AI is appropriate for providing timely feedback ($M = 3.10$, $SD = 0.50$), although still interpreted as "Agree." This relatively lower mean suggests lingering concerns or uncertainties regarding the reliability, contextual accuracy, and pedagogical appropriateness of AI-generated feedback. Such hesitation is supported by recent literature indicating that while AI can generate rapid feedback, issues related to feedback quality, bias, and lack of human nuance remain significant challenges (Tan et al., 2025; Luckin et al., 2022). Additionally, moderate ratings for accuracy and fairness of assessments ($M = 3.15$) further reflect teachers' cautious stance toward fully trusting AI in high-stakes evaluative functions, reinforcing the need for robust validation and ethical safeguards in AI deployment.

The findings imply that while teachers are generally receptive to integrating generative AI in assessment, their acceptance is conditional and critically informed, emphasizing augmentation rather than automation of teaching roles. This has important implications for policy and practice: educational institutions must provide targeted professional development on AI literacy, ethical use, and assessment design; establish clear guidelines to ensure transparency, fairness, and data privacy; and promote a balanced human-AI collaboration model in assessment processes. Furthermore, curriculum developers and school leaders should integrate AI tools to enhance differentiated instruction and formative feedback while maintaining teacher agency and accountability. Overall, the results underscore the necessity of a pedagogically grounded and ethically guided integration of generative AI, ensuring that technological innovation supports, rather than undermines, sound assessment practices in basic education.

Differences in Teachers' Perceptions of the Usefulness and Appropriateness of Generative AI for Assessment When Grouped According to Profile Variables

The results of the inferential analysis indicate that there are no statistically significant differences in teachers' perceptions of the usefulness and appropriateness of generative AI for assessment when grouped according to age ($F = 0.84$, $p = .48$), sex ($F = 0.67$, $p = .52$), and highest educational attainment ($F = 0.91$, $p = .41$). In all cases, the null hypothesis was not rejected, signifying that variations in demographic characteristics do not influence teachers' perceptions of generative AI in assessment practices.

Table 3. *Differences in Teachers' Perceptions of the Usefulness and Appropriateness of Generative AI for Assessment When Grouped According to Profile Variables*

Profile Variables	Test Used	Computed Value (F)	p-value	Decision	Interpretation
Age	One-way ANOVA	0.84	.48	Fail to reject H_0	Not significant
Sex	One-way ANOVA	0.67	.52	Fail to reject H_0	Not significant
Educational Attainment	One-way ANOVA	0.91	.41	Fail to reject H_0	Not significant

A salient finding of this analysis is the consistency and homogeneity of teachers' perceptions, suggesting that educators, regardless of profile variables, share a common recognition of the pedagogical value of generative AI. This uniformity implies that acceptance of AI technologies is not contingent upon individual demographic attributes but is instead shaped by shared professional experiences, increasing exposure to digital innovations, and institutional shifts toward technology-enhanced learning. The lack of variation across age groups indicates that both novice and experienced teachers exhibit comparable openness to AI integration. Similarly, the absence of significant differences by sex and educational attainment reinforces the notion that generative AI adoption is becoming a professionally normalized, system-driven phenomenon.

These findings are consistent with contemporary literature emphasizing that technology acceptance in education is primarily influenced by perceived usefulness, ease of use, and institutional support rather than demographic factors. For instance, Dwivedi et al. (2023) highlighted that the adoption of artificial intelligence technologies is largely driven by performance expectancy and facilitating conditions, with minimal influence from demographic variables. In the context of education, Zawacki-Richter et al. (2019) found that AI integration is strongly associated with pedagogical relevance and institutional readiness rather than teacher characteristics such as age or gender.

Similarly, Su and Zhong (2022) emphasized that educators' engagement with AI tools is shaped by their understanding of its instructional value and ethical implications, suggesting that shared professional knowledge contributes to aligned perceptions across teacher groups. In addition, Farrokhnia et al. (2024) reported that the use of generative AI tools in higher education is widely accepted among educators, regardless of demographic background, due to increasing familiarity and accessibility of these technologies.

Recent studies indicate that convergence in teachers' views of emerging technologies is more strongly associated with school-level support, professional learning, and digital competence development than with personal background characteristics. For example, Chiu et al. (2024) found that school learning support and digital policy/culture significantly foster teachers' digital competence, including competencies relevant to AI-enabled teaching. In a related study, Galindo-Domínguez et al. (2024) reported that higher teacher digital competence was associated with more positive attitudes toward AI regardless of age, sex, years of experience, educational stage, or field of knowledge, suggesting that professional capability matters more than demographic variables. Similarly, Huang et al. (2024), in a systematic review of technology-enabled teacher professional development, concluded that digital training initiatives are most effective when they promote active learning, collaboration, expert support, and equitable access, all of which help normalize technology use across teacher groups. From the broader AI-in-education literature, Almasri et al. (2024) likewise noted that teachers' and students' perceptions of AI are shaped by its pedagogical usefulness, contextual fit, and implementation conditions, thereby contributing to a more shared understanding of its benefits and constraints.

The implications of these findings are substantial for policy and practice. Since teachers exhibit a uniform level of acceptance and understanding of generative AI, educational institutions can implement system-wide strategies for AI integration without demographic-based differentiation. Emphasis should instead be placed on strengthening institutional readiness through continuous professional development, AI literacy training, and the establishment of clear ethical guidelines for assessment practices. Moreover, fostering collaborative learning communities and ensuring equitable access to AI tools can further enhance effective implementation. Overall, the findings affirm that the integration of generative AI in assessment is not determined by individual teacher characteristics but rather by collective professional culture, technological exposure, and organizational support, underscoring the importance of systemic approaches to innovation in education.

Extent of Utilization of Generative AI Tools in Providing Personalized and Constructive Feedback Among Basic Education Teachers

The findings in Table 4 reveal that basic education teachers use generative AI tools to provide personalized and constructive feedback to a moderate extent, as reflected in the overall mean of 3.05 (SD = 0.63). This indicates that while generative AI has already been integrated into teachers' feedback practices, its use remains at a developing stage rather than being fully institutionalized.

Table 4. *Extent of Utilization of Generative AI Tools in Providing Personalized and Constructive Feedback Among Basic Education Teachers*

Indicators	M	SD	VD/VI
As a teacher, I...			
use generative AI tools to provide personalized feedback to students.	2.82	0.56	A
incorporate AI-generated suggestions when assessing student work.	3.03	0.71	A
analyze AI-generated outputs to identify areas for student improvement.	3.08	0.58	A
adapt AI recommendations to align with my teaching goals and curriculum standards.	3.26	0.59	A
share AI-assisted feedback with students to guide their learning process.	2.97	0.58	A
apply AI tools to monitor student progress over time.	2.92	0.62	A
adjust my instructional strategies based on insights provided by AI feedback.	3.03	0.58	A
review AI-generated feedback for accuracy before sharing it with students.	3.13	0.61	A
experiment with different AI tools to improve the quality of feedback.	3.15	0.74	A
integrate AI-generated feedback into my lesson planning and assessment practices.	3.08	0.66	A
Composite Mean	3.05	0.63	UME

Legend: 4.00 – 3.26 – Strongly Agree (SA)/ Utilized to a Great Extent (UGE); 3.25 – 2.51 – Agree(A)/ Utilized to a Moderate Extent (UME)
2.50 – 1.76 – Disagree (D)/ Utilized to a Less Extent (ULE); 1.75 – 1.00 – Strongly Disagree (SD)/ Not at all Utilized (NAU)

The highest mean was obtained for adapting AI recommendations to align with teaching goals and curriculum standards (M = 3.26, SD = 0.59), suggesting that teachers demonstrate strong professional agency in contextualizing AI outputs within pedagogical and curricular frameworks. In contrast, the lowest mean was recorded for using generative AI tools to provide personalized feedback to students (M = 2.82, SD = 0.56), implying

a relatively cautious stance toward allowing AI to directly mediate individualized feedback. Overall, the results indicate that teachers are more inclined to use AI as a supportive and adaptive tool rather than as an autonomous feedback provider.

This pattern is consistent with recent empirical and review studies emphasizing that teachers' use of AI is largely guided by professional judgment, digital competence, and perceived pedagogical value. For instance, teachers have been found to recognize AI as a useful support for instructional and feedback processes while still requiring human oversight to ensure contextual appropriateness and accuracy (Chounta et al., 2022). Similarly, evidence shows that teachers' attitudes toward AI are significantly influenced by their level of digital competence, which enables them to critically evaluate and adapt AI-generated outputs rather than adopt them uncritically (Galindo-Domínguez et al., 2024). Broader systematic reviews further indicate that AI integration in education remains uneven and evolving, with teachers most commonly using AI for assistive functions such as lesson planning, assessment support, and feedback enhancement rather than fully automated instructional tasks (Tan et al., 2025). In addition, research on generative AI highlights that, while tools such as ChatGPT offer efficiency and scalability, concerns about reliability, ethics, and pedagogical alignment continue to shape cautious adoption among educators (Baig & Yadegaridehkordi, 2024).

The implications of these findings suggest that strengthening the use of generative AI in feedback requires a systematic and capacity-building approach. Given that teachers already demonstrate strong competence in adapting AI outputs to curricular goals, professional development initiatives should focus on enhancing AI feedback literacy, including prompt design, critical evaluation of outputs, and ethical use in assessment. At the same time, the lower utilization of AI for direct personalized feedback underscores the need for clear institutional guidelines and quality assurance mechanisms to build trust in AI-generated feedback. Research also suggests that combining AI-generated feedback with teacher input can improve learning outcomes while maintaining credibility and pedagogical integrity (Henderson et al., 2025; Asadi et al., 2025). Furthermore, effective integration depends on structured professional development programs and supportive school environments that enable teachers to move from exploratory use toward more consistent and meaningful application of AI in teaching (Li et al., 2025). Overall, the findings underscore that generative AI is most effective when used as a teacher-augmented tool, with human expertise central to guiding, refining, and contextualizing AI-assisted feedback.

Differences in the Utilization of Generative AI Tools for Personalized and Constructive Feedback When Grouped According to Profile Variables

The results in Table 5 show that teachers' use of generative AI tools for personalized and constructive feedback does not differ significantly across age, sex, and highest educational attainment groups. This suggests that the use of AI for feedback-related functions may already be diffusing across teacher groups in a relatively uniform manner, rather than remaining confined to a specific demographic segment.

Table 5. *Differences in the Utilization of Generative AI Tools for Personalized and Constructive Feedback When Grouped According to Profile Variables*

Profile Variable	Test Used	Computed Value (F)	p-value	Decision	Interpretation
Age	One-way ANOVA	1.02	.39	Fail to reject H_0	Not significant
Sex	One-way ANOVA	0.88	.42	Fail to reject H_0	Not significant
Educational Attainment	One-way ANOVA	1.11	.34	Fail to reject H_0	Not significant

This pattern is consistent with recent research indicating that demographic variables are often weaker predictors of AI-related engagement than readiness, perceived usefulness, and contextual support. For instance, teachers' intention to use generative AI is more strongly shaped by self-efficacy, perceived usefulness, attitude, and subjective norm than by demographic distinctions alone (Kong et al., 2024). Similarly, a large-scale study on teachers' AI readiness reported no significant differences by gender, underscoring that preparedness for AI-enhanced teaching may be broadly distributed when access and exposure are present (Wang et al., 2023). Parallel evidence from pre-service and university-teacher contexts also shows that age-related differences are not always decisive in AI adoption or AI literacy, especially when digital competence and institutional conditions are considered more directly (Kalniņa et al., 2024; Dringó-Horváth et al., 2025).

The absence of significant differences across profile variables may further indicate that teachers' engagement with generative AI for feedback is shaped more by shared professional demands than by personal background.

Providing personalized feedback, monitoring learner progress, and adjusting instruction are now common instructional expectations across grade levels, and AI tools are increasingly seen as practical supports for these tasks. Recent studies have shown that teachers and teacher educators tend to view generative AI as relevant to instruction, assessment, and feedback, but their actual confidence and sophistication in use depend heavily on training, prior use, and organizational support rather than on demographic identity (Moorhouse & Kohnke, 2024; Bergdahl & Sjöberg, 2025; Prilop et al., 2025). A systematic review likewise concluded that the central issue in teachers' AI integration is not who the teachers are demographically, but whether schools and systems provide the professional development, ethical guidance, and implementation structures necessary for sustained use (Tan et al., 2025). In this sense, the non-significant findings in the present study may reflect a context in which teachers, regardless of age, sex, or educational attainment, encounter similar opportunities and constraints when adopting AI for feedback.

These findings carry important implications for practice and policy. Since utilization appears relatively consistent across demographic groups, interventions to strengthen AI-supported feedback should focus less on demographic targeting and more on whole-school capacity building. Evidence from recent studies suggests that AI can assist feedback work by improving timeliness, structure, and individualization, yet it is most effective when embedded within a human-guided pedagogical framework (Pargmann et al., 2025; Doyle et al., 2025). At the same time, the literature cautions that teachers need support in using AI critically and responsibly so that efficiency does not come at the expense of relational, contextual, and ethical dimensions of feedback (Doyle et al., 2025; Prilop et al., 2025). Thus, the present findings imply that schools should prioritize institution-wide AI literacy programs, practical training on feedback design, and clear ethical policies for classroom use. Such strategies are likely to benefit the teaching workforce as a whole because current evidence suggests that the use of generative AI for feedback is a shared professional concern rather than a demographic divide.

Relationship Between Teachers' Perceptions of Generative AI for Assessment and Their Utilization of AI Tools for Personalized and Constructive Feedback

The findings in Table 6 show a statistically significant, strong positive relationship between teachers' perceptions of the usefulness and appropriateness of generative AI for assessment and their use of AI tools for personalized, constructive feedback ($r = 0.71$, $p < .001$). This means that as teachers' perceptions of generative AI become more favorable, their actual use of AI for feedback likewise increases. The magnitude of the correlation suggests that perception is not a trivial factor but a major behavioral driver in whether teachers translate awareness of AI into classroom practice. This pattern is consistent with technology-adoption research showing that perceived usefulness, perceived value, and behavioral intention are closely linked in educators' acceptance of AI-based tools, particularly when teachers see such tools as pedagogically relevant rather than merely technically novel (Lu et al., 2024; Zhang et al., 2023).

Table 6. Relationship Between Teachers' Perceptions of Generative AI for Assessment and Their Utilization of AI Tools for Personalized and Constructive Feedback

Variables	r	p-value	Decision	Interpretation
Perceived Usefulness & Appropriateness and Utilization of AI Tools	0.71	.000	Reject H_0	Significant, Strong Positive Relationship

This result is further supported by recent studies showing that teachers' readiness, familiarity, and confidence strongly shape the extent to which AI is used in authentic educational work. In K–12 settings, educators with greater familiarity and preparedness tend to report stronger readiness for AI adoption, while limited training and ethical uncertainty weaken implementation (Cheah et al., 2025; Kim, 2025). Related evidence also shows that even when teachers recognize the potential of generative AI, many still use it more for lesson planning, assessment preparation, and administrative work than for direct instructional interaction, suggesting that favorable perceptions are often the first condition for deeper pedagogical integration. In the present study, the strong correlation indicates that teachers who already view generative AI as appropriate for assessment are more likely to extend that trust into feedback practices, including giving individualized, timely, and constructive responses to learners (Shata & Hartley, 2025; Tan et al., 2025).

The implications of this finding are substantial for schools and policymakers. Since perception is strongly associated with utilization, efforts to increase responsible AI use should not focus solely on access; they should also strengthen teachers' pedagogical understanding, ethical judgment, and confidence in applying AI to

assessment and feedback. Professional development should therefore include hands-on training in prompt design, feedback validation, bias checking, and human oversight so that teachers can use AI critically rather than dependently. At the institutional level, clear policies, implementation standards, and support systems are needed because the broader literature shows that adoption becomes more sustainable when positive faculty perceptions are matched by organizational guidance, communication, and ongoing professional learning structures. Thus, the present finding suggests that improving teachers' perceptions of generative AI is a practical pathway toward increasing its meaningful, equitable, and pedagogically sound use in feedback practices.

Major Themes on Teachers' Concerns Regarding the Use of AI in Assessment and Grading

Table 7. Major Themes on Teachers' Concerns Regarding the Use of AI in Assessment and Grading

Theme	Description	Sample Evidence
Academic Integrity and Authenticity Issues	Teachers are concerned that students submit AI-generated outputs as their own, making it difficult to assess genuine learning and authorship.	<i>"Students may submit AI-generated work as their own..."</i>
Reliability and Accuracy of AI Outputs	AI-generated responses may contain incorrect, outdated, or misleading information, raising concerns about the dependability of AI in assessment.	<i>"AI may produce incorrect and outdated information..."</i>
Fairness, Bias, and Equity Concerns	AI may favor certain learners (e.g., those with strong language skills or better prompts), potentially leading to biased or unequal assessment outcomes.	<i>"It may favor students who are already good in English..."</i>
Overreliance on AI and Reduced Critical Thinking	Excessive use of AI may weaken students' independent thinking, creativity, and authentic engagement in learning tasks.	<i>"Learners tend to rely on AI, which leads to less critical thinking..."</i>
Need for Human Oversight and Ethical Use	Teachers emphasize that AI should support—not replace—professional judgment, requiring validation, monitoring, and ethical guidelines.	<i>"AI must be a helper, not a producer..."</i>

The thematic analysis identified five major concerns that teachers associate with the use of AI in assessment and grading: academic integrity and authenticity issues, the reliability and accuracy of AI outputs, fairness and equity concerns, overreliance on AI, which may weaken critical thinking, and the continuing need for human oversight and ethical use. Among these, academic integrity emerged as the most salient concern, as teachers worried that students may submit AI-generated work as their own, thereby obscuring genuine authorship and making it more difficult to evaluate actual learning. Closely related to this is the issue of reliability, as teachers perceive that AI-generated responses may contain inaccuracies, outdated information, or misleading claims that can compromise the validity of assessment outcomes. The themes on fairness and bias further suggest that AI use may not benefit all learners equally, especially when outcomes depend on prompt-writing skill, language proficiency, or access to digital resources. Meanwhile, concerns about overreliance indicate that excessive dependence on AI may weaken independent thinking, creativity, and authentic engagement with learning tasks. Taken together, these themes show that teachers do not reject AI outright; rather, they position it as a tool whose educational value depends on responsible boundaries, careful verification, and the preservation of teacher judgment.

These findings are strongly echoed in recent journal literature on generative AI and assessment. In an international study across universities in Australia, Cyprus, and the United States, educators and students perceived generative AI to have a particularly strong impact on essay- and coding-based assessments, with explicit concern that academic integrity and authenticity are negatively affected; notably, educators favored redesigning assessments to emphasize process, authentic application, and higher-order thinking (Kizilcec et al., 2024). Complementing these findings, the work of Alvero (2026) further highlights persistent challenges in AI integration, particularly students' overreliance on generative tools, issues of citation transparency, and the prevalence of unverifiable or fabricated references. Similarly, Kofinas et al. (2025) demonstrated that even authentic assessments are not, by themselves, sufficient protection against the integrity threats posed by generative AI, suggesting that concerns about authorship and misuse are empirically well-founded.

Regarding reliability, Li et al. (2024) found that ChatGPT can demonstrate usefulness and consistency in marking

some written tasks. However, its performance remains sensitive to prompting conditions, underscoring why teachers remain cautious about depending on AI outputs without validation. Concerns about weakened thinking are also supported by evidence that instant AI-generated responses may shape students’ cognitive engagement in ways that require pedagogical caution rather than uncritical adoption (Essel et al., 2024). At the same time, the literature also nuances the present findings: Lee et al. (2024) reported that self-reported high school cheating did not dramatically increase after ChatGPT’s public release, which suggests that teacher concern should not be read as mere moral panic, but rather as a rational response to a changing assessment environment in which task design, institutional norms, and clarity of expectations mediate risk. Overall, the present themes align with current scholarship in showing that the central issue is not simply whether AI exists in education, but whether assessment systems are robust enough to preserve validity, fairness, and authentic student learning in its presence.

The implications of these findings are substantial for theory, practice, and policy. Theoretically, the results reinforce the view that AI integration in assessment should be understood through a human-centered lens in which technological capability must remain subordinate to pedagogical intent, assessment validity, and professional judgment. Practically, the findings indicate a pressing need for sustained teacher professional development in AI literacy, especially in evaluating AI-generated outputs, designing AI-resilient assessments, and teaching students to use AI ethically and transparently. This need is well supported by recent evidence showing that many educators remain underprepared for day-to-day GenAI integration and continue to face barriers related to ethics, guidance, and classroom application (Cheah et al., 2025; Kim, 2025). At the institutional level, the themes call for clear and context-sensitive AI governance frameworks, including discipline-specific policies, explicit rules for disclosure and acceptable use, safeguards for student data, and multifaceted evaluation strategies that reduce overdependence on easily generated outputs (Wang et al., 2024). In addition, because faculty adoption is strongly shaped by perceived usefulness, trust, and social reinforcement, institutions must go beyond rule-setting and provide credible support structures that build teacher confidence while preserving accountability (Shata & Hartley, 2025). For classroom assessment, this means shifting toward process-based, performance-based, and context-anchored tasks that make students’ reasoning, revision, and participation more visible. Thus, responsible AI integration in assessment requires not only technical awareness but also a systemic commitment to ethical use, equity, and teacher-led oversight.

Major Themes on Institutional and Policy Gaps in the Integration of Generative AI in Assessment

Table 8. *Major Themes on Institutional and Policy Gaps in the Integration of Generative AI in Assessment*

Theme	Description	Sample Evidence
Lack of Clear Institutional Policies and Guidelines	Schools lack explicit policies on when, how, and to what extent AI can be used in assessment, resulting in confusion and inconsistent practices.	<i>“There are no clear institutional policies in place...”</i>
Insufficient Training and AI Literacy Among Teachers	Limited professional development and training hinder teachers’ ability to effectively and ethically integrate AI in assessment.	<i>“Limited teacher training on evaluating AI-generated outputs...”</i>
Inconsistent Implementation and Lack of Standardization	Teachers independently decide how to use AI, leading to unequal practices across classrooms and institutions.	<i>“Teachers are left to decide individually... leading to inconsistent practices...”</i>
Absence of Ethical Frameworks and Academic Integrity Policies for AI	Existing academic integrity policies do not fully address AI-assisted work, creating gaps in defining acceptable use.	<i>“Policies... do not explicitly address AI-assisted work...”</i>
Limited Institutional Support, Infrastructure, and Monitoring Mechanisms	Lack of support systems, tools, and monitoring structures affects proper AI integration and responsible use.	<i>“Lack of support for teachers and students... AI literacy...”</i>

The qualitative findings reveal five major institutional and policy gaps that hinder the effective integration of generative AI in assessment: a lack of clear institutional policies and guidelines, insufficient teacher training and AI literacy, inconsistent implementation across classrooms, absence of updated ethical and academic integrity frameworks, and limited institutional support and infrastructure. Among these, the lack of explicit institutional policies emerged as the most critical concern, as teachers reported uncertainty about when and how to use AI appropriately in assessment, leading to fragmented and inconsistent practices. This ambiguity is further exacerbated by insufficient training, which constrains teachers’ ability to critically evaluate AI-generated outputs and apply them responsibly in pedagogical contexts. The absence of standardized implementation frameworks

leads to variability in assessment practices, potentially compromising fairness and comparability across learning environments. Moreover, existing academic integrity policies were found to be inadequate in addressing AI-assisted work, creating uncertainty about how to distinguish acceptable from unethical use. Finally, limited institutional support—such as inadequate infrastructure, lack of monitoring mechanisms, and restricted access to reliable AI tools—further constrains the responsible and effective adoption of AI in assessment systems.

These findings are strongly supported by recent Scopus-indexed studies that highlight systemic and institutional challenges in AI integration within education. For instance, a large-scale study by Bond et al. (2024) found that many higher education institutions lack coherent AI policies, leading to inconsistent implementation and uncertainty among educators regarding acceptable practices. Similarly, Crompton and Burke (2023) emphasized that insufficient professional development remains a major barrier to effective AI adoption, with teachers reporting low confidence in evaluating and integrating AI tools into assessment. In terms of standardization, Farrokhnia et al. (2024) noted that decentralized decision-making often results in uneven application of AI across courses, reinforcing disparities in student experience and assessment practices. Ethical and academic integrity concerns are further substantiated by Cotton et al. (2024), who argued that existing institutional policies are not yet equipped to address the complexities of AI-assisted outputs, particularly in defining authorship and accountability. Additionally, Tlili et al. (2023) highlighted that limited institutional readiness—including gaps in infrastructure, governance, and monitoring systems—significantly impedes the sustainable and ethical integration of AI in education. Collectively, these studies affirm that the barriers identified in the present findings are not isolated but reflect broader systemic issues requiring coordinated institutional responses.

The implications of these findings are critical for advancing theory, practice, and policy in AI-integrated education. Theoretically, the results reinforce the need for institutional theory perspectives that emphasize governance, standardization, and organizational readiness as key determinants of successful technology integration. Practically, there is an urgent need to design structured and continuous professional development programs that enhance teachers' AI literacy, focusing on ethical evaluation, assessment redesign, and responsible classroom application. Institutions must also develop clear, comprehensive, and context-sensitive AI policies that explicitly define acceptable use, ensure transparency, and safeguard academic integrity. At the policy level, standardized frameworks should be established to guide consistent implementation across departments, supported by monitoring systems and evaluation mechanisms to ensure accountability. Furthermore, investments in infrastructure and institutional support systems are essential to enable equitable access to AI tools and resources. These recommendations align with recent policy-oriented research, which underscores the importance of institutional governance models and strategic readiness in ensuring the responsible and pedagogically sound integration of AI in education. Overall, addressing these institutional and policy gaps is imperative to harness the benefits of generative AI while mitigating its risks in assessment and grading practices.

Integration of Quantitative and Qualitative Findings as Basis for Policy Recommendations on the Responsible Use of Generative AI in Assessment

The integration of quantitative and qualitative findings in Table 9 reveals a coherent yet nuanced picture of teachers' engagement with generative AI in assessment. Quantitatively, teachers reported a high level of perceived usefulness ($M = 3.32$) alongside a moderate level of actual utilization ($M = 3.05$), while qualitatively, they emphasized AI as a supportive tool that requires human oversight. This convergence suggests that while teachers recognize the pedagogical value of AI, they remain cautious about its autonomous use. Such findings are consistent with recent empirical studies indicating that educators generally perceive generative AI as beneficial for enhancing feedback quality and efficiency but stress the indispensability of teacher judgment in ensuring validity and contextual appropriateness (Zawacki-Richter et al., 2019; Holmes et al., 2021). Similarly, research by Kasneci et al. (2023) highlights that AI can augment assessment practices but should be positioned as a co-intelligence rather than a replacement for educators. The implication is clear: policy frameworks must explicitly define AI as an assistive tool within assessment systems, reinforcing teacher agency while maximizing technological affordances.

A critical insight emerging from the integration is the gap between perception and practice, as evidenced by the strong positive correlation ($r = 0.71$, $p < .05$) and supported by qualitative themes of limited training, inconsistent implementation, and lack of institutional direction. Despite uniformly positive perceptions across demographic groups ($p > .05$), teachers reported uncertainty in applying AI tools effectively. This aligns with findings from empirical studies showing that AI adoption in education is significantly mediated by digital competence,

institutional support, and professional development opportunities (Bittermann et al., 2023). Moreover, empirical evidence suggests that without structured training, teachers' use of AI remains superficial and fragmented, limiting its transformative potential in assessment (Lodge et al., 2023). The implication for policy is the urgent need to invest in sustained capacity-building initiatives, including AI literacy programs and integration of AI competencies into both pre-service and in-service teacher education. Such efforts will bridge the perception-utilization gap and promote more consistent and effective practices.

Table 9. *Integration of Quantitative and Qualitative Findings as Basis for Policy Recommendations on the Responsible Use of Generative AI in Assessment*

Key Areas	Quantitative Findings	Qualitative Themes	Integrated Interpretation	Policy Recommendations
Perceived Usefulness of AI	High perceived usefulness and appropriateness (M = 3.32, Very Great Extent); strong agreement that AI enhances assessment and feedback	Recognition of AI as a support tool; need for human oversight	Teachers are highly receptive to AI and recognize its value, but emphasize that it should complement—not replace—professional judgment	Develop an AI-in-Assessment Policy Framework that clearly defines AI as a support tool and outlines appropriate use in formative and summative assessment
Utilization of AI Tools	Moderate utilization in feedback practices (M = 3.05); use across personalization, monitoring, and instructional adjustment	Lack of training and AI literacy; inconsistent practices	There is a gap between positive perception and actual use due to limited competencies and guidance	Implement continuous professional development programs focusing on AI literacy, ethical use, and AI-assisted assessment strategies
Differences Across Profile Variables	No significant differences in perception and utilization based on age, sex, or educational attainment ($p > .05$)	Shared experiences of uncertainty and lack of direction	AI acceptance is uniform, suggesting system-wide rather than individual-level challenges	Establish standardized institutional guidelines and rubrics to ensure consistent AI integration across all teachers and departments
Perception-Utilization Relationship	Strong positive relationship ($r = 0.71$, $p < .05$)	Teachers are more likely to use AI when confident and informed	Perception significantly influences practice; enhancing competence will increase responsible utilization	Strengthen capacity-building initiatives and embed AI competencies in pre-service and in-service teacher education programs
Academic Integrity Concerns	Implied through cautious agreement that AI should not replace teacher judgment (M = 3.56)	Issues on plagiarism, authorship, and authenticity of student work	AI introduces risks to the authenticity and validity of the assessment	Revise and strengthen academic integrity policies to include AI disclosure, detection strategies, and authentic assessment approaches
Reliability, Fairness, and Bias	Moderate agreement on AI improving fairness and accuracy (M = 3.15)	Concerns on inaccurate outputs, bias, and unequal advantages among students	Teachers acknowledge benefits but remain cautious about AI limitations and ethical risks	Develop ethical guidelines and validation protocols requiring teacher review of AI outputs before use in assessment
Overreliance and Critical Thinking	Agreement that AI complements but does not replace teachers (M = 3.56)	Concerns about reduced student critical thinking and overdependence on AI	There is a need to balance AI use with the development of higher-order thinking skills	Promote pedagogically sound AI integration, emphasizing AI as a scaffold for learning rather than a substitute for thinking
Institutional and Policy Gaps	No direct quantitative measure, but reflected in moderate utilization levels	Lack of policies, limited training, inconsistent implementation, and insufficient support systems	Institutional deficiencies hinder effective and ethical AI integration	Formulate comprehensive institutional policies, including infrastructure support, monitoring systems, and AI governance mechanisms
Equity and Accessibility	Uniform responses across demographics suggest potential equal perception, but not necessarily equal access	Concerns on unequal access, language bias, and the digital divide	Without support, AI may widen inequities among learners	Ensure equitable access to AI tools, provide institutional subscriptions, and design inclusive AI-supported assessment practices

Equally significant are the ethical, pedagogical, and equity-related concerns identified across both data strands. Teachers expressed apprehensions regarding academic integrity, reliability, bias, and potential overreliance on

AI, with mean scores reflecting cautious agreement (e.g., $M = 3.56$ for maintaining teacher judgment). Qualitative data further underscored issues of plagiarism, authenticity, unequal access, and the risk of diminishing students' critical thinking skills. These concerns are strongly supported by recent literature emphasizing the ethical complexities of generative AI in assessment, particularly regarding authorship, bias, and fairness (Tlili et al., 2023; Cotton et al., 2023; Rudolph et al., 2023). Additionally, studies highlight that algorithmic bias and unequal access to AI tools may exacerbate existing educational inequities if not proactively addressed. Consequently, the findings imply the necessity of comprehensive institutional policies that encompass ethical guidelines, AI disclosure requirements, validation protocols, and inclusive access provisions. More importantly, pedagogical strategies must be recalibrated to position AI as a scaffold for higher-order thinking rather than a substitute for cognitive engagement, thereby ensuring that technological integration remains aligned with fundamental educational goals.

Conclusion

The study concludes that basic education teachers exhibit a high level of acceptance toward generative artificial intelligence (GenAI) in assessment and feedback, as reflected in the strong perceived usefulness and appropriateness ($M = 3.32$). This indicates that teachers recognize the value of AI in enhancing assessment efficiency, feedback quality, and instructional practices. The absence of significant differences across age, sex, and educational attainment further suggests that acceptance of GenAI is consistent across demographic groups, pointing to a shared professional orientation toward AI integration. Despite these favorable perceptions, actual utilization remains only moderate ($M = 3.05$), indicating a clear gap between belief and practice. The strong positive relationship ($r = 0.71$, $p < .05$) confirms that perception significantly influences utilization, yet institutional and professional limitations constrain this relationship. Moreover, teachers raised critical concerns about academic integrity, reliability, fairness, and overreliance on AI, as well as systemic issues, including unclear policies, insufficient training, and limited support mechanisms. These findings indicate that while GenAI is widely accepted, its integration in assessment remains developmental and requires structured support to ensure responsible and effective use.

Based on these findings, it is recommended that educational institutions adopt a comprehensive and system-wide approach to AI integration in assessment and feedback. This includes developing clear, context-sensitive policy frameworks that define ethical use, academic integrity standards, and the role of AI as a support tool rather than a replacement for teacher judgment. Institutions should also implement sustained professional development programs focusing on AI literacy, assessment design, and ethical application to bridge the gap between perception and practice. Furthermore, standardized guidelines and monitoring mechanisms should be established to ensure consistency and accountability, while academic integrity policies must be updated to address AI-assisted outputs through transparency and authentic assessment strategies. Investment in infrastructure and equitable access is also essential to support effective implementation. Ultimately, fostering a human-centered and reflective approach to AI use—where technology enhances rather than diminishes critical thinking and pedagogical integrity—will ensure that the integration of generative AI remains ethical, equitable, and aligned with the goals of quality education.

Contributions of Authors

Author 1: Led the conceptualization and overall research design of the study, prepared the original draft, conducted data analysis and interpretation, and developed the proposed framework. The author also oversaw the entire research process and finalized the manuscript, while contributing to the refinement and fine-tuning of the paper, formatting it in accordance with publication standards, enhancing the methodological section, and ensuring overall clarity, coherence, and readiness for publication.

Author 2: Assisted in data gathering and field data coordination, including logistical support during data collection and ensuring completeness of responses.

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Conflict of Interests

The authors declare no conflict of interest.

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