




International Journal of Learning, Teaching and Educational Research
 Vol. 25, No. 5, pp. 498-528, May 2026
<https://doi.org/10.26803/ijlter.25.5.22>
 Received Feb 15, 2026; Revised Apr 20, 2026; Accepted Apr 20, 2026

Bridging Perceptions and Practice: Teachers' Views and Classroom Use of Artificial Intelligence (AI)-Supported Feedback in University English as a Foreign Language (EFL) Writing Classes

Susmita Sarker Shuvra 
 City University
 Savar, Dhaka, Bangladesh

Sukanto Roy*  and Poroma Subha Mostafiz 
 North South University
 Dhaka, Bangladesh

Abstract. The rapid development in artificial intelligence has brought significant changes in teaching and learning practices in the context of higher education English as a Foreign Language context. This empirical study focuses on three research questions. These are tertiary-level English teachers' perceptions of artificial intelligence assisted feedback, their approaches to incorporating it into teaching, and the challenges they encounter in implementing it in the English as a Foreign Language classroom, guided by the Technology Acceptance Model. Using a mixed-method approach, data were collected from 120 university English teachers via questionnaires. Results show teachers indicate high perceived usefulness ($M = 4.13$), ease of use ($M = 4.10$), and overall acceptance ($M = 4.08$), but lower actual use ($M = 3.97$). Teachers specifically use artificial intelligence during drafting and revision ($M = 3.75$), alongside their guidance ($M = 3.58$). However, the regression analysis ($R^2 = .006$) suggests that a positive attitude cannot ensure the successful integration of artificial intelligence in the English as a Foreign Language classroom. Barriers such as implicit institutional policy, ethical concerns, limited training opportunities, and students' overdependency on artificial intelligence tools hinder regular application. These issues are reflected in low monitoring ($M = 2.50$) and discussing limitations ($M = 1.75$). Thus, this study highlights the critical gap that remains between

Citation:
 Shuvra, S. S., Roy, S.,
 Mostafiz, P. S. (2026).
 Bridging Perceptions and
 Practice: Teachers' Views
 and Classroom Use of
 Artificial Intelligence
 (AI)-Supported Feedback
 in University English as a
 Foreign Language (EFL)
 Writing Classes.
*International Journal of
 Learning, Teaching and
 Educational Research*,
 25(5), 498-528
<https://doi.org/10.26803/ijlter.25.5.22>

*Corresponding author: Sukanto Roy; sukanto.roy@northsouth.edu

teachers' positive perceptions and practical integration, emphasizing the role of effective pedagogical mediation of artificial intelligence tools.

Keywords: Artificial intelligence; AI-assisted feedback; English as a Foreign Language; higher education; teachers' perceptions; mixed-method research

1. Introduction

In this era of technological advancement, worldwide educational settings are facing significant changes. Among these advanced technological tools, AI is reshaping the traditional teaching-learning practice in higher education. AI-supported tools promise to enhance language learning outcomes, but they require teachers' involvement to support students. In English as a Foreign Language (EFL) context, several tools such as grammar checkers, automated writing evaluation systems, and adaptive feedback applications help to develop the writing skills of learners. More specifically, recent developments in AI include natural language processing (hereafter NLP)-based tools, machine learning-driven automated writing evaluation (hereafter AWE) systems, and generative AI applications (e.g., large language models) that can provide more context-sensitive feedback on students' writing (Tran, 2025; Urzúa et al., 2025). These tools not only help in correcting errors but also help learners to improve through continuous revision and personalized feedback (Zhang, 2025).

Delivering individualized feedback is indeed difficult for teachers due to heavy workloads, limited time, and large class size. In these circumstances, AI-assisted feedback can be a possible solution for the learners as it provides personalized responses and encourages them to engage in autonomous learning. However, it significantly depends on teachers' perceptions of AI-assisted feedback, pedagogical integration, and their ability to navigate ethical and instructional constraints (Alnemrat et al., 2025). While the Technology Acceptance Model (TAM) explains that the successful implementation of technology depends on how teachers perceive usefulness and ease of use (Davis, 1989; Xue et al., 2026), it does not fully address pedagogical implementation. In AI-assisted feedback context, teachers play the key mediator role.

Previous studies have shown several concerns regarding AI in higher education. Though AI is providing autonomous and fast learning, educators are raising their concerns regarding its ethical practice and academic integrity (Vallespir-Antillón et al., 2025). In a developing country of the Global South like Bangladesh, AI adoption is increasing in universities, yet professional training, institutional policies, and pedagogical goals remain untouched. This brings forth a contrast between positive perception regarding the use of AI and its successful implementation into EFL teaching practice. This study addresses this discrepancy by examining teachers' perceptions and actual classroom practice to provide insights into the effective use of AI tools.

This study is not limited to its specific context; its findings contribute to broader discussion on AI-assisted feedback in EFL writing. Even though it was carried out in a developing country, it shows how teachers' attitudes and classroom practices construct the use of AI tools in real teaching situations. The results may also help other similar contexts where institutional support and training are still limited. It can guide teachers, curriculum designers, and policymakers in using AI tools in a more effective and practical way.

2. Literature Review

2.1 Artificial Intelligence in Education

AI in education refers to technologies that perform tasks that traditionally require human cognition, such as analyzing data, adjusting to each learner's needs, and providing personalized support. AI-based tools are mostly known in teaching-learning practice for their ability to design individual learning, manage routine tasks such as grading and giving feedback, and support teachers in making data-based pedagogical decision. These entail learning analytics platforms, automated writing evaluation systems, intelligent tutoring systems, and generative AI applications to help monitor progress, identify learners' strengths and gaps, and provide immediate feedback.

Previous studies show that AI tools can enhance students' learning experience and make pedagogical instructions more effective in the EFL context. However, the pedagogical effectiveness of AI tools relies on how well they are integrated to support teaching goals and ensure they are used ethically (Vallespir-Adillon et al., 2025). Furthermore, Chen et al. (2022) contend that proper integration of AI mitigates ethical concerns and reinforce academic integrity in educational settings. Previous studies largely focus on general effectiveness and pedagogical benefits of AI but focus less on how teachers implement AI tools into EFL classroom settings. This study, thus, addresses this gap of how teachers integrate these tools in the classroom, considering pedagogical and ethical issues.

2.2 AI in English Language Teaching

In the context of English Language Teaching (hereafter ELT), AI technologies can help learners to improve language skills by offering some features such as NLP, intelligent tutoring systems, and automated feedback. These tools provide instant error correction, writing organization, guidance on sentence structure, and interactive exercises to create a more supportive and personalized learning experience. Due to this reason, students gain greater engagement and motivation.

Research evidence suggests that AI tools not only enhance lexical choice and linguistic accuracy but also encourage learners to participate more actively in the revision and reflective learning process (Syafei & Nuraeningsih, 2025; Zhai et al., 2021). For example, an intelligent tutoring system keeps track on students' progress and automated writing evaluation tools address frequent mistakes. Kostka and Toncelli (2023) also found that AI tools help learners to enhance their vocabulary, correct grammar, and boost their confidence by providing immediate and personalized feedback. Although earlier studies highlight how AI can support the development of language skills, they tend to veer more toward

students' results than to what actually happens in the classroom. In other words, we still know relatively little about how teachers themselves take up these tools in their day-to-day teaching. With this gap in mind, the present research looks at how EFL teachers understand and integrate AI tools in their real teaching context.

2.3 AI-assisted Feedback in Writing Instruction

AI-assisted feedback denotes commentary provided with the help of AI to facilitate learners' writing skills. In this study, the focus is mainly on AWE system and generative AI tools, which provide real-time writing guidance. AWE system generally addresses surface-level features such as grammar, spelling, and sentence structure. On the contrary, generative AI tools facilitate content suggestion, idea development, and organization.

Huang, Xu, Li, and Yu (2024) conducted a PRISMA-based meta-analysis and argued that automated writing technologies reduce writing-related anxiety and motivate learners by providing proper feedback, which help them to improve in target language writing skills. AI technologies also help learners to enhance reading comprehension through personalized support (Silor & Silor, 2025). Additionally, feedback-oriented technologies help learners to improve metacognitive strategy in EFL writing by facilitating the planning of their ideas, monitoring their improvement, and revising their final works critically (Zhang & Zhang, 2022).

However, empirical studies argue that AI tools mainly focus on surface-level aspects of writing skills, such as correcting grammatical errors, preliminary-level word choice, and hardly contribute in choosing high-order words (i.e., advanced vocabulary that conveys nuanced meaning, academic tone, or complex ideas), coherence, idea development, and critical thinking (Bai & Hu, 2017). As a result, students who mostly rely on AI tools for their writing face barriers to express their thoughts meaningfully. From the teachers' perspective, there are some factors, such as limited trust in AI's efficiency, lack of training in pedagogical approaches, and worries regarding management of instructional control, making the use of AI tools in EFL classrooms complicated (Eusebio et al., 2025).

According to Urzúa et al. (2025), without proper pedagogical guidance, students may be overly dependent on AI-assisted feedback and consequently avoid deep learning. Therefore, effective use of AI-assisted feedback requires teachers' guidance to balance merits and limitations. While prior research acknowledges both the benefits and limitations of AI-assisted feedback, it gives little attention to how teachers actually guide and shape its use in writing classrooms. This research, therefore, focuses on the disparity between automated feedback and teacher-led instructional practice.

2.4 Teachers' Perceptions and Technology Integration

To determine the successful integration of AI technologies in the EFL classrooms, teachers' perception is a widely acknowledged factor. According to research grounded in TAM, the use of new technology in the EFL classroom depends on how teachers perceive it to be and how compatible it is to use it (Davis, 1989). This model has been applied in recent studies on AI-assisted feedback in the EFL

classroom (Runge et al., 2025). In this new era of AI in education, previous studies show that teachers are acknowledging the merits of AI tools such as AWE systems, NLP-based grammar and vocabulary checkers, and generative AI applications for real-time feedback. This is corroborated by the increased usage of AWE system (e.g., Grammarly) that predict students' engagement (Lin & Yu, 2025), AI-driven grammar and paraphrasing tools which provide immediate corrective feedback (Sharmithashini & Hashim, 2025), and generative AI feedback systems that facilitate organization and content quality (Zhang, 2025). At the same time, they also raise concerns about the ethical implications, probability of academic misconduct, and data privacy (Kasneji et al., 2023).

In EFL settings, challenges are heightened due to the limited knowledge regarding implementation of AI tools in the EFL classroom, lack of literacy in teachers, and insufficient institutional support. According to previous studies, the successful integration of AI depends on both teachers' perceptions and their ability to support students in applying AI tools ethically and responsibly (Zhao, 2024). Proper teachers' training, ethical awareness, access to tools, sufficient institutional infrastructure, and alignment with curricula are essential for effective implementation of AI (Matiwane & Olaitan, 2025; Akram et al., 2022). Although earlier studies discuss both the advantages and the challenges, they rarely show how these views are reflected in what teachers are practicing in their classroom. To mitigate these issues, this research tries to identify how teachers' beliefs connect with their practical use of AI-supported feedback in EFL writing classes.

2.5 Research Gap

Existing studies have pointed out the effectiveness of AI-assisted feedback in enhancing students' linguistic accuracy and use of vocabulary, and learners' engagement in the EFL writing context. However, most of this research focus on the effectiveness of specific AI tools or on the learning outcomes, comparatively less attention on how teachers actually apply AI tools in the context of the EFL classroom. In addition, studies hardly address the factors such as institutional supports and demands, and pedagogical goals, particularly in developing countries. Therefore, this study aims to explore both teachers' perceptions and classroom practices in writing instructions, offering insights into the practical integration of AI in ELF higher education contexts.

3. Research Question

- i. What is tertiary-level English teachers' perceptions of AI-assisted feedback in English language learning?
- ii. How do tertiary-level English teachers incorporate AI-assisted feedback into their teaching practices?
- iii. What challenges do teachers face when implementing AI-assisted feedback into tertiary-level EFL classrooms?

4. Theoretical Framework

The study is grounded in the TAM theory developed by Fred Davis (1989), which helps to explain why people avoid or accept new technologies. According to TAM, two main beliefs shape people's decisions, such as how useful they think

technology is (perceived usefulness) and how easy they expect it to be used (perceived ease of use). This theory helps explain how educators interact with digital tools in EFL teaching. In the context of AI, only acceptance is not enough; it is also important to consider how teachers experience and interact with these digital tools to find out the real impact on the teaching-learning process (Ozil, 2025). It indicates that teachers' past experiences with digital tools, realities of classrooms, and expectations have influenced the way of integrating AI tools into teaching instructions.

In AI-assisted feedback for EFL writing, perceived usefulness refers to teachers' attitudes that AI tools may reduce the time and effort required for assessment, increase students' involvement, and enhance students' writing skills. Moreover, perceived ease of use indicates teachers' confidence and positive attitude to use AI-assisted feedback in learning, operating, and applying them in the actual classroom situation. If teachers perceive it positively, they will feel more confident in using this tool in the classroom. Recent research shows that, in addition, trust is also an essential factor in shaping users' perceptions and adoption of technology (Asif & Sarwar, 2025).

However, a positive attitude toward AI tools does not always mean that it will work effectively, if broader and contextual factors do not support the adoption of technology by the educators (Xue et al., 2025; Hazzan-Bishara et al., 2025). For this reason, the present study adopts a pedagogical mediation perspective, this shows the main role of teachers in making the decision to use technology in the teaching-learning process (Hazzan-Bishara et al., 2025). According to this, technology does not improve learning automatically.

In addition, effectiveness also depends on teachers' instructional choices, classroom interaction, and professional judgments (Xue et al., 2025). This insight is highly applicable to AI-assisted feedback in EFL classes. Though AI tools can generate automated feedback, teachers still play a crucial role in deciding how and when to use this feedback, when to intervene, and how to help students to make sense of AI-generated comments (Ofem et al., 2025). According to Sari (2025), teachers' perceptions influence technology integration, especially in technology acceptance and professional development settings.

By combining TAM with a pedagogical mediation perspective as an analytical lens grounded in sociocultural theory, this framework sheds light on how teachers think about AI-supported feedback and how those beliefs shape what they actually do in the everyday classroom (Xue et al., 2025; Hazzan-Bishara et al., 2025). It helps the study to find out not only whether teachers simply accept AI tools, but also how and why they use them in the classroom practically. Similar to the work by Xue et al. (2025), this combined approach provides a strong basis for analyzing survey data and interview findings related to teachers' perceptions, decisions, and classroom practices in tertiary-level EFL writing contexts.

4. Methodology

4.1 Research Design

This empirical study employed a convergent mixed-method design in which qualitative and quantitative data were collected separately and combined to provide a deeper and comprehensive understanding of tertiary-level English teachers' perceptions and classroom practices related to AI-assisted feedback (Hazzan-Bishara et al., 2025; Xue et al., 2025; Zhang et al., 2025). This design was specially chosen as it enables triangulation, which strengthens the validity of the findings and provides a more comprehensive interpretation of the result (Lariba & Ibojo, 2025; Sholikhah et al., 2025).

In addition, the design was guided by a theoretical framework that integrates TAM and PMP (Hazzan-Bishara et al., 2025; Xue et al., 2025). While TAM helped to explore teachers' perceptions and how useful or easy they find AI tools, PMP focused on how teachers use these tools in their classrooms and in making decisions about when and how to apply them effectively (Sholikhah et al., 2025; Zhang et al., 2025).

4.2 Participants

The quantitative data have been collected from 120 tertiary-level English language teachers from diverse public and private universities located in urban areas of Bangladesh. A combination of purposive and convenience sampling was used to ensure representation from a range of institutional contexts.

For the qualitative phase, 12 teachers were purposively chosen due to their experience in using AI-assisted feedback into writing instructions. This approach ensured that both interviews and classroom observations reflected authentic instructional practice. The sample (n=12) was adequate as data saturation was attained with no emergence of new themes.

4.3 Instruments

4.3.1 Questionnaire

A structured Likert-scale questionnaire has been designed with 24 items to explore teachers' perceptions, readiness, and concerns regarding AI-assisted feedback (Davis, 1989; Hazzan-Bishara et al., 2025). The items were developed based on the TAM theory.

Before proceeding to data collection, the questionnaire was evaluated by specialists in educational technology and English language teaching to ensure content validity and relevance. To ensure an analytical consistency in statistical analysis, all questionnaire items were standardized to a five-point Likert scale. The questionnaire showed strong internal consistency, with a Cronbach's alpha of .82, during the pilot testing. When applied to the full sample, it continued to show acceptable reliability, with a Cronbach's alpha of .744 across the 24 items. Parametric tests were used because the sample size (N = 120) was sufficient and the skewness and kurtosis values showed that the data were approximately normally distributed.

4.3.2 Interviews

Semi-structured interviews were conducted with 12 teachers who were purposively selected based on their experience in integrating AI-assisted feedback into writing instructions (Sholikhah et al., 2025). Open-ended questions were designed with the pedagogical mediation perspectives to motivate the teachers to share their teaching experience and detailed examples of integrating AI tools in the EFL writing classroom. These interviews focused on their instructional beliefs, practical experiences, and approaches to incorporating AI-assisted feedback effectively.

4.3.3 Observation

Non-participant class observations were carried out to verify and validate the self-reported data and ensure methodological triangulation (Latif & Wasim, 2024). A structured observation checklist was used to systematically document AI tools integration, teachers' feedback, and student engagement. Each of the 12 selected teachers was observed in one or two class sessions (60-90 minutes each) over the semester. A structured checklist was used to record classroom practice, as summarized in Table 8.

4.4 Data Collection Procedure

Data were collected over one academic semester to enable adequate time for thoughtful engagement with participants. The questionnaire was distributed through online and face-to-face interviews conducted via Zoom and Google Meet based on participants' availability, which is in line with approaches applied in mixed-method research (Zhang & Samsudin, 2026). To ensure consistency across various classes, classroom observations were conducted using a clear and structured checklist. Every step of data collection was carried out meticulously to follow ethical standards, participants were voluntary, informed consent was obtained, and they were assured that all their information would remain private and confidential (Zhang & Samsudin, 2026).

4.5 Data Analysis

Quantitative data were analyzed using descriptive statistics through SPSS (Version 27) to explore teachers' perceptions, willingness, and readiness for AI-assisted feedback. The numerical findings of quantitative data were guided by TAM. Qualitative data from interviews and classroom observations were transcribed and analyzed using Braun and Clarke's (2006) six-step thematic analysis. The study employed a qualitative thematic analysis of classroom observation data, supported by descriptive statistical summaries to illustrate classroom practice and pedagogical mediation. The integration of both datasets connected teachers' perceptions with their classroom practice, providing a comprehensive view of AI-assisted feedback (Latif & Wasim, 2024).

5. Results and Findings

5.1 Quantitative Findings

5.1.1 Demographic Profile of the Participants

Table 1 presents the demographic information of the EFL teachers' participants, including gender, university type, and teaching experience.

Table 1: Demographic Profile of the Participants

Variable	Category	Frequencies (n)	Percentage (%)
Gender	Male	50	41.7
	Female	70	58.3
University Type	Public	61	50.8
	Private	59	49.2
Age (Year)	Mean (SD)	39.57	9.36
Teaching Experience (Year)	Mean (SD)	12.17	7.68

Note. Age ranged from 26 to 59 years, and teaching experience ranged from 1 to 29 years.

The sample included a relatively balanced gender distribution with slightly higher female teachers, and an almost equal representation of public and private universities. The teachers' average ($M = 39.57$, $SD = 9.36$) and teaching experience ($M = 12.17$, $SD = 7.68$) indicate mature and professionally experienced respondents that ensure a strong context for interpreting their perceptions and classroom practices regarding integration of AI tools.

5.1.2 Reliability of the Questionnaire Constructs

This section examines the internal consistency of the questionnaire constructed through Cronbach's alpha. The reliability results are summarized in Table 2.

Table 2: Reliability Analysis (Cronbach's Alpha)

Cronbach's Alpha	N of items
.744	24

According to Table 2, the overall Cronbach's alpha value for the 24-item questionnaire was .744, indicating an acceptable level of reliability (Dorsah, 2026). This means that the items were clearly understood by the participants, and they responded consistently.

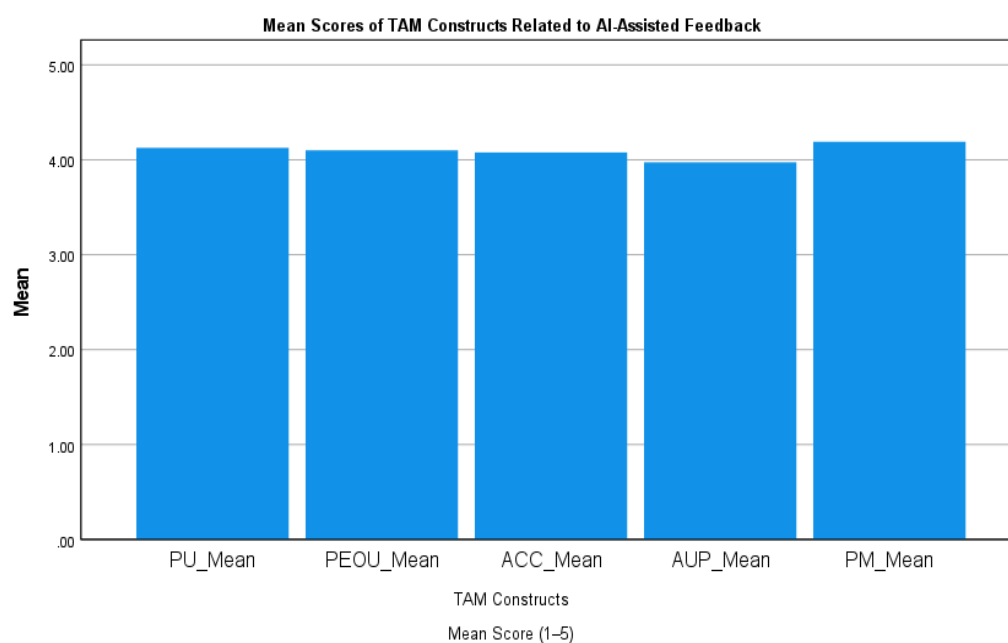
5.1.3 Descriptive Statistics of TAM Constructs

Table 3 shows the descriptive statistics of teachers' perceptions and classroom practices related to AI-assisted feedback. The overall findings indicate the positive attitude of the EFL teachers to AI tools.

Table 3: Descriptive Statistics of Teachers' Perceptions and Practices Related to AI-Assisted Feedback (N = 120)

Construct	Mean	SD	Min	Max
Perceived Usefulness (PU)	4.13	0.44	3.00	5.00
Perceived Ease of Use (PEOU)	4.10	0.50	2.75	5.00
Overall Acceptance (ACC)	4.08	0.37	3.00	5.00
Pedagogical Mediation (PM)	4.19	0.33	3.40	5.00
AI Usage Practices (AUP)	3.97	0.51	2.43	5.00

The findings show that teachers generally perceived AI-assisted feedback useful (PU = 4.13) and easy to apply in the teaching practice (PEOU = 4.10). The highest score (PM= 4.19) highlights that teachers' interpretation and guidance is essential for maximizing the effectiveness of AI tools (Xue et al., 2026). Relatively, the lower AUP= 3.97), reflecting that classroom practice is not yet fully systematic.



Note: PU = Perceived Usefulness; PEOU = Perceived Ease of Use; ACC = Overall Acceptance; PM = Pedagogical Mediation; AUP = AI Usage Practices. All items were rated on a five-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Figure 1: Mean Scores of TAM Constructs Related to AI-Assisted Feedback

Figure 1 represents the average scores of the five TAM constructs related to AI-assisted feedback in university EFL writing classes. As shown in the figure, all constructs scored above the neutral midpoint of 3.00, showing that teachers generally hold positive perceptions of AI-assisted feedback. PM recorded the highest mean score among all constructs, indicating that teachers strongly believe that AI-assisted feedback is most effective when supported by teacher guidance. On the other side, AUP showing comparatively lower values, suggesting actual classroom practice does not fully align with teachers' positive feedback.

5.1.4 Relationships among TAM Constructs

A Pearson correlation analysis was conducted to explore teachers' perceptions, acceptance, and classroom practices. The results are presented in Table 4.

Table 4: Correlation among TAM Construct

Construct	PU	PEOU	ACC	PM	AUP
PU	1	.04	-.09	-.03	.05
PEOU		1	-.03	-.12	.04
ACC			1	-.02	.03
PM				1	.03
AUP					1

Note. All correlations are Pearson's r . None of the correlations reached statistical significance at the .05 level (two-tailed).

The analysis revealed that Pearson correlation among TAM constructs were non-significant, indicating that teachers' positive perception cannot alone ensure the successful integration of AI use in classroom (Yim & Wegerif, 2024). There are some factors which influence the successful integration of AI tools such as institutional policies, curriculum constraints, and pedagogical considerations (Uygun, 2024).

5.1.5 Group Differences by Gender and University Type

Table 5 summarizes the effect size estimates for group differences by gender and university type in teachers' perceptions and classroom use of AI-assisted feedback.

Table 5: Group Differences in AI-Assisted Feedback Constructs by Gender and University Type

Construct	Group Comparison	Cohen's d	95% CI (Lower-Upper)	Effect Size Interpretation
PU	Male vs Female	-0.236	-0.594 to 0.124	Small
PEOU	Male vs Female	0.229	-0.131 to 0.587	Small
ACC	Male vs Female	0.143	-0.216 to 0.501	Trivial-Small
PM	Male vs Female	0.041	-0.317 to 0.399	Trivial
AUP	Male vs Female	-0.203	-0.561 to 0.156	Small
PU	Public vs Private	-0.236	-0.594 to 0.124	Small
PEOU	Public vs Private	0.229	-0.131 to 0.587	Small
ACC	Public vs Private	0.143	-0.216 to 0.501	Trivial-Small
PM	Public vs Private	0.041	-0.317 to 0.399	Trivial
AUP	Public vs Private	-0.203	-0.561 to 0.156	Small

Note. Cohen's d values were calculated using pooled standard deviations. Effect sizes were interpreted following Cohen's (1988) guidelines: 0.20 = small, 0.50 = medium, 0.80 = large. Confidence intervals including zero indicate non-significant group differences.

Table 5 showed that gender and institutional affiliation did not produce significant impact on teachers' perceptions regarding AI. This finding is consistent with the recent research, indicating there is a negligible or limited influence of demographic and intuitional factors on how teachers perceive AI tools in classroom practice (Cabero-Almenara, 2024; Sharmin et al., 2026).

5.1.6 Effects of TAM Constructs and Pedagogical Mediation on AI Usage Practices

A multiple regression analysis was carried out to examine whether teachers' perceptions and acceptance of AI-assisted feedback determine their classroom usage. The analysis considered PU, PEOU, ACC, and PM as the independent variables, and the dependent variable was teachers' AUP. All predictor variables were entered together using the enter method, which made it possible to examine how technology acceptance and pedagogical factors jointly contributed to the outcome.

Table 6: Multiple Regression Predicting Teachers' AUP

Predictor	B	Std. Error	Beta	T	P	Tolerance	VIF	Condition Index	Variance Proportion
(Constant)	3.136	1.068	-	2.935	.004	-	-	1.000	.00
PU_Mean	0.058	0.108	0.050	0.537	.592	0.989	1.011	19.31	0.83
PEOU_Mean	0.044	0.097	0.043	0.457	.648	0.983	1.017	21.26	0.67
ACC_Mean	0.050	0.129	0.036	0.387	.699	0.990	1.010	26.58	0.45
PM_Mean	0.051	0.146	0.033	0.349	.727	0.984	1.016	56.73	0.47

Model Summary: R = 0.077, R² = 0.006, Adjusted R² = -0.029, Std. Error = 0.520

ANOVA: F (4, 115) = 0.173, p = 0.952 → Not significant

Note. All predictors entered simultaneously; no multicollinearity issues (Tolerance > .98, VIF ≈ 1); residuals assumptions reasonably met.

The model explored only 6 % of the variance ($R^2 = .006$) which was not significant. It reflects that positive perception solely insufficient to direct classroom implementation of AI tools. So, it suggests that other factors such as pedagogical constraints, curriculum goal, and institutional support determine this beyond individual perception (Sharmin et al., 2026; Yim & Wegerif, 2024).

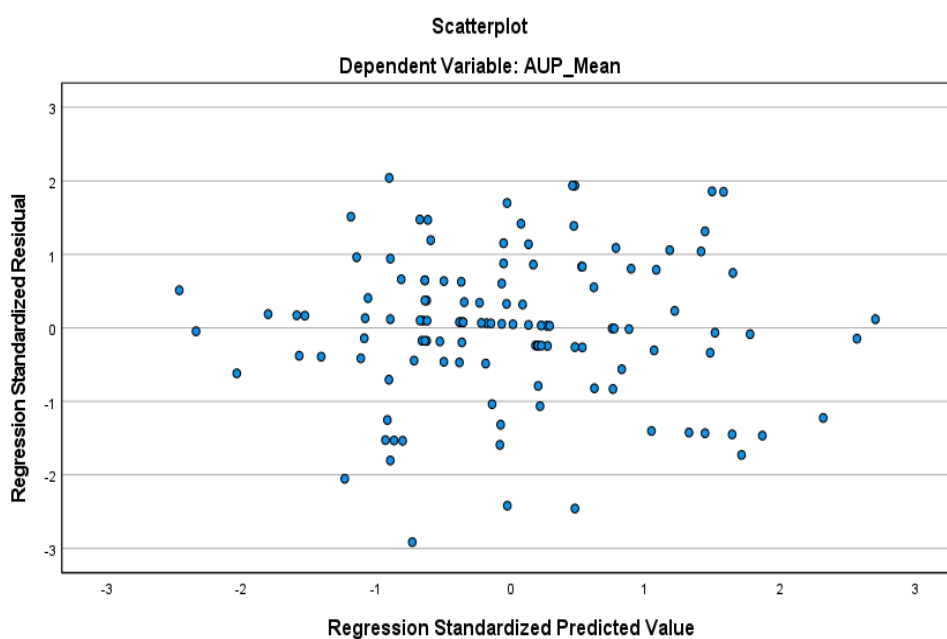
**Figure 2: Scatterplot of predicted versus observed AUP among teachers**

Figure 2 shows the relationship between the observed and predicted values of AI usage. The clustering of data points around the central range indicates little variation in AI usage in the real EFL classroom. The residual pattern shows that the regression assumptions were reasonably met. Simply, the findings suggest that teachers' positive perceptions do not automatically lead to classroom use of AI-assisted feedback.

5.1.7 Descriptive Statistics and Normality of Study Variables

Before conducting correlations and regression analysis, data were first explored through descriptive statistics to understand their overall patterns. To ensure that the data was suitable for parametric analysis, each variable was examined using skewness and kurtosis values along with visual inspection of the distributions.

Table 7: Descriptive Statistics and Normality of Study Variables (N = 120)

Variable	Mean	Std. Deviation	Skewness	Std. Error	Kurtosis	Std. Error	Minimum	Maximum
PU_Mean	4.127	0.444	0.094	0.221	0.075	0.438	3.00	5.00
PEOU_Mean	4.100	0.497	0.121	0.221	-0.082	0.438	2.75	5.00
ACC_Mean	4.078	0.371	0.045	0.221	1.911	0.438	3.00	5.00
PM_Mean	4.190	0.330	0.675	0.221	0.141	0.438	3.40	5.00
AUP_Mean	3.970	0.513	-0.330	0.221	0.340	0.438	2.43	5.00

Notes: Skewness and kurtosis values indicate that all variables are approximately normally distributed. Minor deviations, such as kurtosis observed for ACC_Mean, were not substantial enough to violate assumptions.

Table 7 indicates that the mean scores for the study variables range from 3.970 (AUP) to 4.190 (PM), indicating generally positive responses across all constructs. Furthermore, the skewness values (-0.330 to 0.675) and kurtosis values (-0.082 to 1.911) were within acceptable limits, supporting the assumptions of normal distribution (Kamath et al., 2025; Sulewski, 2024).

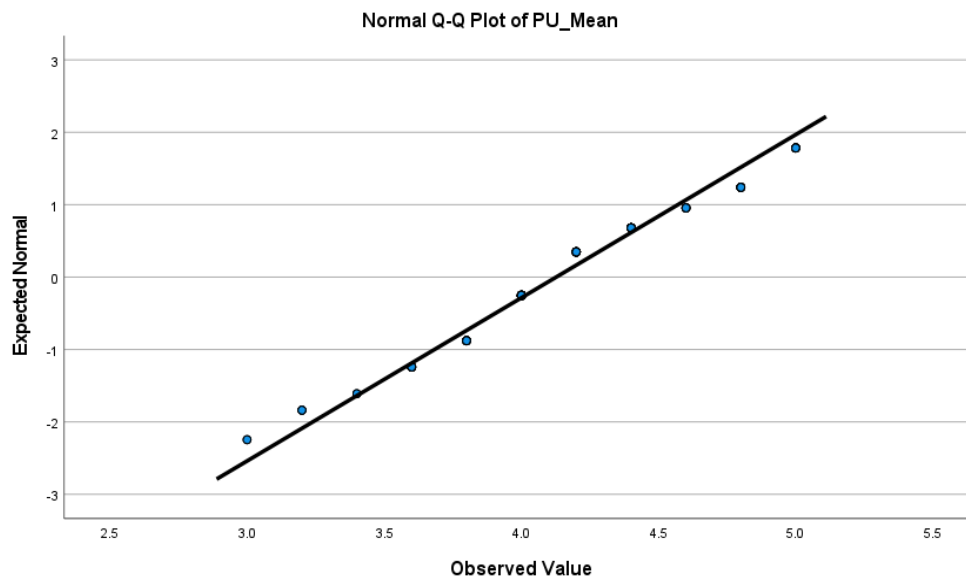
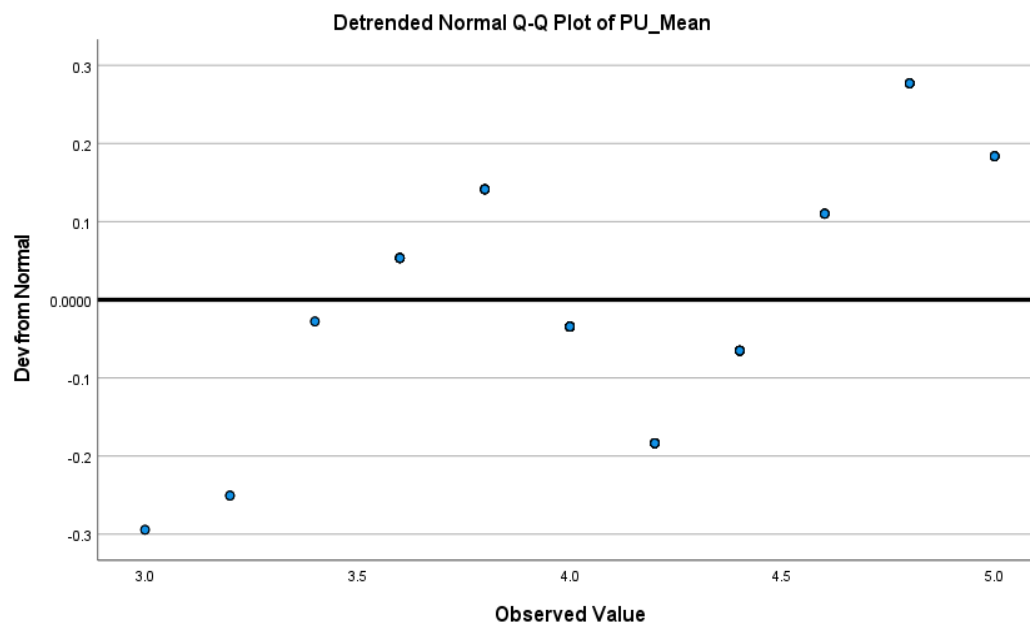


Figure 3: Normal Q-Q plot of PU_Mean



Plot of PU_Mean

Figure 4: Detrended normal Q-Q p

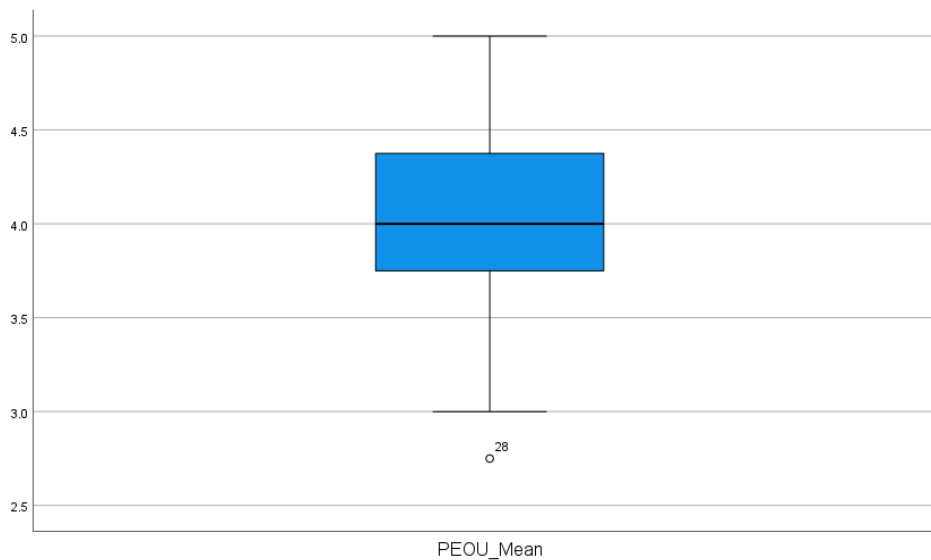


Figure 5: Boxplot of PEOU_Mean showing the median, quartiles, range, and potential outliers

Figures 3, 4, and 5 provide visual evidence of data distribution and confirm that the data were normally distributed. This is further supported by the visual of the normal Q-Q plots and detrended Q-Q plots for PU_Mean (Figures 3 and 4). In the normal Q-Q plot (Figure 3), the majority of the data points closely aligned with the diagonal line, suggesting that the observed values were nearly matched with expected normal distribution. The detrended Q-Q plot (Figure 4) revealed only slight, randomly dispersed deviations around zero, with no evident systematic bias. Furthermore, the boxplot for PEOU_Mean (Figure 5) also showed a nearly symmetrical distribution centered near 4.0, with most values closely grouped and only a single mild outlier, suggesting the overall consistency of the data. These findings suggest that the data are normally distributed and suitable for parametric analysis (Bantu et al., 2025).

5.1.8 Summary of Quantitative Findings

This section presents a detailed interpretation of qualitative data from semi-structured interviews with tertiary-level English language teachers as well as insights from classroom observations. It explores how EFL teachers perceive AI-assisted feedback but also how they integrate it into EFL writing instructions and what sorts of challenges they face during the real classroom. The analysis followed Braun and Clarke's (2006) six-phase thematic analysis procedure and was guided by TAM with a PM perspective used as a supporting analytical lens grounded in sociocultural theory.

Overall, teachers expressed positive attitudes regarding the use of AI-assisted feedback. However, statistical analysis revealed that teachers' positive perception does not automatically translate into EFL classroom practice. However, to use AI-assisted feedback in the classroom, PM, institutional goals, and curriculum demands play a significant role (Xue, Mahat, & Ghazali, 2026).

5.2.1 Teachers' Perceptions of AI-Assisted Feedback

Depending on the interview data, it can be said that teachers held positive perceptions of AI-assisted feedback due to its practical value in routine feedback tasks. AI tools are time-efficient and consistent to identify grammatical errors and sentence-level inaccuracies. These aspects of feedback were described as repetitive and demanding when done manually, mostly in large classes (Karagoz, 2025).

Several teachers revealed that integration of AI feedback helped them to reduce workload and also allowed them to address the high-level writing issues such as idea development, argument organization, and coherence. These perceptions align with TAM where teachers' willingness ensure the successful integration of technology (Davis, 1989). Recent studies also show that where class sizes are big, AI support is beneficial (Mekheimer, 2025).

"AI tools help me quickly point out grammar errors and repeated mistakes. It saves time so I can focus on higher-order facts like argument, developing ideas and coherence." (Teacher 05)

At the same time, teachers also said, AI tools can address surface-level errors. According to them, to address the deeper issues such as developing ideas, logical flow, coherence, and critical thinking require teachers' support and pedagogical insights (Karagoz, 2025). Participants argued that to address such things, there is still a need for teachers' guidance and pedagogical insights.

"AI gives good mechanical corrections, but it sometimes misses the logic or coherence of ideas. That still needs a human eye." (Teacher 04)

However, several teachers showed concern regarding the fact that students take every suggestion from AI which reduces their capability of thinking critically and limits their independent idea generating ability.

"Some students take every suggestion from AI as the final answer. That worries me because they stop thinking about why a change is needed." (Teacher 10)

These findings showed that teachers are willing to use AI tools in the EFL writing class but remain cautious about its uncritical use.

5.2.2 Ease of Use and Acceptance of AI Tools

Teachers' previous exposure to technology and institutional support play an important role in teachers' willingness to use AI tools in the classroom. Digitally confident teachers are comfortable navigating the system and support the students to use AI tools efficiently with repeated use in real classroom situations (Al-Abdullatif, 2024).

"After a few sessions of using the tool, I felt comfortable. The interface is simple, and students picked it up quickly as well." (Teacher 07)

On the other hand, the less tech-experienced participants reported initial difficulties regarding using AI tools such as understanding feedback options, choosing appropriate settings and aligning AI feedback with lesson objectives.

They also showed their frustration about the lack of training, and institutional support (Runge et al., 2025).

"I felt a bit lost at first, especially choosing the right options in the AI tool. There is no formal training here." (Teacher 01)

Despite the challenges, teachers accept the benefits of using AI-assisted feedback in the classroom. However, the overall findings suggest that sustained adoption of AI tools requires structured training, and strong institutional support (Al-Abdullatif, 2024; Runge et al., 2025).

5.2.3 Pedagogical Mediation of AI Feedback

Interview data showed the teachers' strong belief regarding use of AI tools in the classroom requires active PM. Teachers explained that AI should be a compliment in the instructional role not a replacement. One participant described their approach:

"I let students see what AI highlights, then we discuss it together. The tool works better when it complements my teaching rather than replaces it" (Teacher 04).

Classroom observation also strongly supports this view. Teachers played an active role in the EFL classroom to make them understand the AI-generated feedback. They particularly address high-level issues such as developing ideas, maintaining coherence, and thinking critically, which cannot be dependent solely upon AI tools (Al-Abdullatif, 2024). Responses indicated that AI tools were used to support instructions but not played the role of substitution for the teacher's pedagogical decision making.

Table 8: Observed Pedagogical Mediation Practices in AI-Assisted Feedback

Observed Item	Mean	SD	Interpretation
Teacher introduces or explains AI feedback tool before use	3.50	0.52	Often-Always
Teacher demonstrates how students should interpret AI-generated feedback	3.17	0.58	Often
Teacher supplements AI feedback with personal comments	3.58	0.52	Often-Always
Teacher adapts AI feedback to suit individual student needs	2.83	0.58	Sometimes-Often
Teacher encourages students to revise their writing based on AI feedback	3.75	0.45	Often-Always
Teacher monitors students' use of AI feedback to avoid overreliance	2.50	0.52	Sometimes
Teacher integrates AI feedback into formal classroom activities	2.75	0.45	Sometimes-Often
Teacher addresses students' questions about AI feedback effectively	3.50	0.52	Often-Always
Teacher reflects on or discusses limitations of AI-generated feedback	1.75	0.45	Rarely-Sometimes
Teacher's use of AI tools aligns with pedagogical goals and lesson objectives	3.50	0.52	Often-Always

Note: Classroom observation items were rated on a five-point Likert scale ranging from 0 (Never) to 4 (Always). Mean scores were interpreted as follows: 1.00–1.99 (Rarely), 2.00–2.99 (Sometimes), 3.00–3.49 (Often), and 3.50–4.00 (Often–Always).

Table 8 mainly shows how teachers mediated AI-assisted feedback in the EFL classroom writing instructions. The mean scores indicate that teachers did not depend on AI tools alone rather they frequently guided students through revision and ensured that AI use remained aligned with pedagogical goals. So, it reflects that AI is used as a complementary instructional tool rather than replacing teachers' pedagogical feedback (Alnemrat et al., 2025). However, a discrepancy was found between teachers' interviews and classroom observations. Teachers emphasized the importance of providing the information regarding AI limitation to the students, such practice has been observed rarely. This gap between teachers' beliefs and classroom practice has been corroborated by several recent studies (Alnemrat et al., 2025; Nguyen et al., 2025).

5.2.4 Integration of AI-Assisted Feedback

Teachers argued that AI-assisted feedback plays the role of a supportive tool in the classroom. AI tools help students provide individualized feedback, such as identifying grammatical errors, spelling mistakes, and improving sentence clarity, during the drafting and revision stage.

*“We upload drafts to the AI tool, then students share what the tool marked. I guide them in prioritizing issues and drafting revisions”
(Teacher 09)*

Classroom observation findings also aligned with the teachers' interview data, reflecting that AI-assisted feedback was actively integrated into EFL writing instructions. As shown in Table 8, teachers frequently encouraged revisions based on AI feedback and guided them with their own explanation. This suggests that AI was used as a supportive instructional tool rather than as a replacement for teachers' pedagogical decision.

According to Table 8, it can be said that teachers were active in mediating AI-assisted feedback during the EFL writing class. For example, encouraging students to revise their work using AI feedback ($M = 3.75$) and supplementing AI-generated suggestions with teachers' own comments ($M = 3.58$) were mostly observed. Teachers also commonly introduced AI tools to students and monitored possible overreliance on AI feedback (both $M = 3.50$), reflecting the concern of the pedagogical and ethical implications of using AI. This observation is closely related to the interview data, where teachers also discussed the necessity of guiding students on responsible use of AI-assisted feedback.

However, comparatively lower mean scores were found in areas such as adapting feedback to individual student needs ($M = 2.83$), integrating AI into structured classroom activities ($M = 2.75$), and addressing students' questions in depth ($M = 2.75$), reflecting that AI tools commonly used during drafting, and revision stages, their deeper pedagogical integration remains limited. Even though the use of AI tools is increasing, due to institutional constraints it remains underdeveloped (Ilmaa & Rohmah, 2025).

5.2.5 Challenges to Integration

Interview findings addressed several challenges that limit the integration of AI-assisted feedback in the classroom in EFL writing instructions. Teachers showed concern regarding the absence of institutional policy, students' overreliance on AI tools, academic integrity, and lack of professional training. Many teachers also argued that there are no specific boundaries for using AI tools in the writing classroom.

"There's no policy or framework. It's up to each teacher to figure things out" (Teacher 11)

These concerns were partially reflected in classroom observations. In Table 9, some observation items were examined separately to reflect the challenges regarding the implementation of AI tools in the EFL writing instructions.

Table 9: Observed Challenges in Implementing AI-Assisted Feedback

Observed Challenges	Mean	SD	Interpretation
Monitoring students' use of AI feedback to avoid overreliance	2.50	0.52	Sometimes
Discussing limitations of AI-generated feedback	1.75	0.45	Rarely-Sometimes

Note. Scores reflect the frequency of observed instructional practices on a 0–4 scale (0 = Never, 4 = Always).

According to Table 9, classroom observation reflected several challenges in terms of using AI-assisted feedback in the classroom. For example, consistent monitoring was not always integrated into regular classroom practices. Classroom observation showed that monitoring students' overreliance on AI tools infrequently (Mean=2.50) observed and discussion on risk of AI is (Mean=1.75) limited. This is consistent with the earlier findings that overreliance on AI tools was present in the classroom but not sufficiently addressed (Nguyen et al., 2025).

This finding also aligns with interview data where teachers explained the importance of discussing AI limitations but faced a lack of institutional support in developing countries. Previous research indicates, without proper guidance from teachers, students' dependence on AI tools may increase (Alsalem, 2024). Classroom Observation further revealed that teachers tried to align AI-assisted feedback with pedagogical goals, specifically during drafting and revision activities, they did not always clearly explain this to learners.

"AI is helpful only when it supports what I want students to learn, not when it replaces the lesson." (Teacher 06)

This suggests that pedagogical alignment existed but remained unspoken which reflects the broader challenges to integrate AI thoughtfully in EFL context (Ilmaa & Rohmah, 2025).

5.2.6 Summary of Qualitative Findings

Overall findings show the positive views of teachers in terms of using AI-assisted feedback in the drafting and revision stage. However, teachers consistently perceive AI as a supportive tool requiring active PM. A key theme was the role of teachers as a facilitator to guide students to apply and interpret AI feedback properly. Despite visible integration, AI use remained cautious and informal.

These qualitative findings align with the quantitative findings, reflecting that PU and ease of use influence attitudes toward technology adoption, but comparatively lower levels of practical implementation. However, practical implementation is directed by contextual factors such as institutional constraints and pedagogical training (Khosro et al., 2025). This suggests a gap between teachers' favorable attitudes and their consistent pedagogical use of AI tools. Overall, the effective use of AI-assisted feedback involves balancing its educational merits with practical and ethical concerns.

Table 10: Summary of Themes and Representative Teacher Quote

Theme	Representative Quote
Perceived Usefulness	"AI helps me quickly identify basic errors; it's useful for initial draft review." – Teacher 03
Ease of Use	"It was a bit confusing at first, but with practice it became easier." – Teacher 11
Pedagogical Mediation	"I always explain the AI feedback to students, not just leave them alone with it." – Teacher 05
Classroom Integration	"We use it mainly for peer review preparation, not formal assessment." – Teacher 08
Challenges	"No formal policy, so I'm not sure how much I should rely on it." – Teacher 10

6. Discussion

This paper analyzes how EFL teachers use AI tools in their classroom as well as scrutinizes the relationship between their perceptions and EFL classroom practice. Findings showed the mismatch between the real classroom usage of AI and the attitudes of the teachers toward AI-assisted feedback. By integrating TAM with PMP, this study offered a more comprehensive explanation of AI adoption that goes beyond traditional perception-based models.

Depending on the quantitative study, it is clear that teachers hold a positive perception regarding AI-assisted feedback. High mean scores for PU and PEOU, and overall acceptance represents that teachers view AI-assisted feedback positively for its speedy, individual responses for the students. These findings are consistent with the previous studies, which suggest that teachers value AI tools for managing feedback more efficiently (Ba et al., 2025; Eusebio et al., 2025). In line with TAM, educators acknowledged that AI-assisted feedback could save time and provide immediate support to the students for correcting grammar and spelling. However, the lack of significant correlations among TAM constructs and

the extremely weak regression model ($R^2 = .006$) refer that the perceptions are not reflected in actual classroom practice. This suggests that AI usage in the EFL writing classes is shaped by contextual and institutional factors than by teachers' perceptions.

The non-significant predictive relationship should be viewed as a theoretical contribution rather than a methodological shortcoming. It challenges the fundamental TAM assumption that there is a linear connection between perception and adoption. In reality, technology use in the EFL context seems to be more shaped by pedagogical needs and institutional conditions rather than by PU or ease of use. This perspective also aligns with recent research, which signifies the role of pedagogical and contextual conditions in terms of using technology in the classroom, where implementation depends less on individual perceptions and more on the practical challenges and priorities teachers encounter in daily classrooms (Matiwane & Olaitan, 2025; Ozili, 2025). There are several influential factors that direct the implementation of AI tools in the classroom, such as curriculum demands, assessment structure, and institutional limitations. The findings indicate that TAM is effective in capturing users' attitudes but reveal its limitations in explaining situated pedagogical decisions.

As an important extension of TAM, PM provides a more complete explanation of AI use in the EFL classroom. TAM captures why teachers may accept AI tools, but it overlooks how teachers integrate it into classroom practice. Teachers actively interpret and adapt AI feedback to meet instructional goals and learner needs. This shifts the view of technology adoptions from individual cognitive decisions to a context-sensitive process guided by teacher agency. This study therefore shows that even when teachers have positive perceptions of AI tools, it does not automatically lead to their systematic or structured use in classroom practice.

The qualitative findings further indicate the disparity between how teachers perceive AI and how it is actually implemented in the classroom. Teachers argued that AI-assisted feedback helped to manage the large classes and allowed additional time to address the higher-order writing skills such as argument development, coherence, and critical thinking. This perspective aligns with previous research showing that AI tools are effective in surface-level writing issues, but it cannot be relied on to address the complex issues of writing (Bai & Hu, 2017). Interview responses and classroom observations consistently highlighted the importance of PM in AI-supported instructions. It suggests that AI-assisted feedback is most effective when it is properly guided by teachers in the EFL writing classroom setting.

PM emerged as an influential factor in the quantitative findings and as the central theme in the qualitative findings. Teachers did not perceive AI as a replacement; rather, they positioned themselves as facilitators to use AI-assisted feedback efficiently in the real classroom. AI tools can address the surface-level writing issues but to address higher-order writing issues including coherence, argument development, and critical thinking, teachers play the major role. The finding aligns with recent study highlighting that teachers' guidance plays a crucial role

for transforming AI-assisted feedback into a productive learning experience (Gumede & Mavuru, 2025).

Ethical consideration is also an important fact but insufficiently developed dimension of practice. Lack of well-defined institutional policies, teachers informally regulate AI use and make discretionary decision about its application. The lack of centralized guidance results in uneven classroom practice and imposes ethical burden on teachers. Concerns such as academic integrity, authorship authenticity, and reliance on AI were handled individually rather than through structured institutional policies which create inconsistency in the EFL classroom practice.

However, Classroom Observation represented a major difference in pedagogical orientation and its real enactment, particularly in the developing countries' EFL classrooms. Though many teachers use AI-assisted feedback in the classroom, as it can provide immediate support, there is less discussion on the ethical implications of AI in academic settings. Similar patterns have been reported in a study which show, though teachers recognize the benefits of using AI in the EFL classroom, they hesitate to introduce it formally due to the institutional constraints and undissolved ethical issue (Vallespir-Adillón et al., 2025). This further suggests that there is need of clear institutional policy to ensure ethical and consistent use of AI in the class.

Overall findings show that AI adoption in EFL context cannot be fully explained by TAM alone. Instead, adoption is shaped by the interaction of perceptions, PM, and institutional contexts. The present study also aligns with this fact: perception-based technology adoption models are not enough to explain the integration of AI tools in the classroom, as they fail due to contextual factors such as disciplinary norms, assessment culture, and policy support (Alnemrat et al., 2025). These findings are also in line with Giac et al.'s (2025) study, which shows that teachers' decision regarding whether and how to use AI tools depends on some factors, such as how useful they perceive it and the support they get from the academic institutions. However, these findings challenge existing perception-focused models and point out the need for contextually grounded frameworks that address instructional, ethical, and policy aspects. These findings suggest that TAM alone cannot fully explain technology use in complex classroom settings like EFL contexts.

7. Recommendation

Based on these findings, several practical and policy-oriented recommendations have been given to support the proper and responsible implementation of AI-assisted feedback in the EFL writing context.

First, universities need to establish clear guidelines for using AI in the classroom responsibly. The lack of such policies leads to uneven classroom practice and inconsistent implementation among teachers. Second, structured and professional development programs are necessary to support teachers. Practical training should be ensured so that they can implement AI tools effectively in the EFL

classroom addressing the ethical issues and learner needs. Third, AI-assisted feedback should be integrated into structured pedagogical activities rather than used independently. Teachers should play an active role in interpreting feedback, foster critical thinking, and addressing overreliance. Fourth, digital literacy in EFL curricula should be integrated to help students to assess and use AI tools appropriately. Finally, further research should employ longitudinal and comparative approaches to understand how training programs and institutional guidelines influence AI-assisted real classroom practice.

8. Conclusion

This study explored how tertiary-level EFL teachers perceive AI tools and use them in the practical classroom, using a convergent mixed method grounded in the TAM and a pedagogical mediation perspective. The findings showed that though teachers hold a positive attitude regarding the use of AI, there are many factors that influence the successful integration of AI in the classroom. Quantitative findings showed that a positive attitude cannot solely lead to the structured integration of AI tools in EFL classroom settings, while qualitative findings highlight several factors that hinder using AI tools in the classroom thoughtfully, such as curriculum demands, ethical concerns, and lack of institutional policy.

A prime contribution of this study is that it emphasizes pedagogical mediation to integrate AI effectively in academic settings. Teachers play an important role in interpreting AI-assisted feedback properly, which guides students in the drafting, revising stages, and ensuring ethical concerns. AI-assisted feedback addresses the surface-level writing issues but in terms of higher-order skills such as coherence, developing ideas, critical thinking, teachers' support is still undeniable. This states that AI-assisted feedback work as a complimentary tool rather than a replacement of teachers' feedback.

Overall study shows that successful integration of AI less depends on teachers PU, largely depends on institutional policy, curriculum demands, professional development, and ethical issues. However, this study is limited by its specific context and relatively small sample size, which may limit the generalizability of the findings, and by the lack of construct validation (EFA/CFA), as reliability was assessed only through Cronbach's alpha.

Conflict of Interest

The authors wish to clarify that there are no conflicts of interest related to the research, authorship, or publication of this paper.

Acknowledgments

The authors would like to express their deep gratitude to the Office of Research, North South University for funding the APC for publishing this article.

11. References

- Akram, H., Abdelrady, A. H., Al-Adwan, A. S., & Ramzan, M. (2022). Teachers' perceptions of technology integration in teaching–learning practices: A systematic review. *Frontiers in Psychology, 13*, 920317. <https://doi.org/10.3389/fpsyg.2022.920317>
- Al-Abdullatif, A. M. (2024). Modeling teachers' acceptance of generative artificial intelligence use in higher education: The role of AI literacy, intelligent TPACK, and perceived trust. *Education Sciences, 14*(11), 1209. <https://doi.org/10.3390/educsci14111209>
- Alnemrat, A., Aldamen, H., Almashour, M., Al-Deaibes, M., & AlSharefeen, R. (2025). AI vs. teacher feedback on EFL argumentative writing: A quantitative study. *Frontiers in Education, 10*, 1614673. <https://doi.org/10.3389/feduc.2025.1614673>
- Alsalem, M. S. (2024). EFL teachers' perceptions of the use of an AI grading tool (CoGrader) in English writing assessment: An activity theory perspective. *Cogent Education, 11*(1). <https://doi.org/10.1080/2331186X.2024.2430865>
- Asif, M., & Sarwar, F. (2025). The essential position of trust in the technology acceptance model: A comprehensive review and bibliometric analysis in management studies. *Journal of Modelling in Management, 20*(5), 1635–1655. <https://doi.org/10.1108/JM2-12-2023-0282>
- Ba, S., Yang, L., Yan, Z., Looi, C. K., & Gašević, D. (2025). Unraveling the mechanisms and effectiveness of AI-assisted feedback in education: A systematic literature review. *Computers and Education Open, 9*, 100284. <https://doi.org/10.1016/j.caeo.2025.100284>
- Bai, L., & Hu, G. (2017). In the face of fallible AWE feedback: How do students respond? *Educational Psychology, 37*(1), 67–81. <https://doi.org/10.1080/01443410.2016.1223275>
- Bantu, A. F., Kozyra, A., & Wiora, J. (2025). Normality tests for transformed large measured data: A comprehensive analysis. *Statistics in Transition New Series, 26*(3), 195–208. <https://doi.org/10.59139/stattrans-2025-034>
- Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology, 3*(2), 77–101. <https://doi.org/10.1191/1478088706qp063oa>
- Cabero-Almenara, J. (2024). Acceptance of educational artificial intelligence by schoolteachers. *Education Sciences, 14*(7), 740. <https://doi.org/10.3390/educsci14070740>
- Chen, X., Zou, D., Xie, H., Cheng, G., & Liu, C. (2022). Two decades of artificial intelligence in education: Contributors, collaborations, research topics, challenges, and future directions. *Educational Technology & Society, 25*(1), 28–47.
- Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. *MIS Quarterly, 13*(3), 319–340. <https://doi.org/10.2307/249008>
- Dorsah, P. (2026). The use of Cronbach's alpha reliability in educational research: A systematic review. *European Journal of Contemporary Education and E-Learning, 4*(2), 39–50. [https://doi.org/10.59324/ejceel.2026.4\(2\).04](https://doi.org/10.59324/ejceel.2026.4(2).04)
- Eusebio, E. J. G., Baldera, P. R., Patiam, A. M. C., Villanueva, E. F., Gaa, N. A., Solis, A. M. F., & Ribon, A. L. (2025). AI in the classroom: A systematic review of barriers to educator acceptance. *International Journal of Learning, Teaching and Educational Research, 24*(9), 126–147. <https://doi.org/10.26803/ijlter.24.9.7>
- Giac, C. C., Giang, C. T. V., Hoang, L. H., & Ngan, T. T. T. (2025). A study on teachers' acceptance of digital technology in Vietnamese secondary education: An assessment using the technology acceptance model. *International Journal of Learning, Teaching and Educational Research, 24*(2), 38–62. <https://doi.org/10.26803/ijlter.24.2.3>

- Gumede, E. N., & Mavuru, L. (2025). Teachers' understandings and practices of using smartboards as digital tools to teach Grade 12 life sciences genetics. *International Journal of Learning, Teaching and Educational Research*, 24(5), 323-338. <http://doi.org/10.26803/ijlter.24.5.17>
- Hazzan-Bishara, A., Kol, O., & Levy, S. (2025). The factors affecting teachers' adoption of AI technologies: A unified model of external and internal determinants. *Education and Information Technologies*, 30, 15043-15069. <https://doi.org/10.1007/s10639-025-13393-z>
- Huang, X., Xu, W., Li, F., & Yu, Z. (2024). A meta-analysis of effects of automated writing evaluation on anxiety, motivation, and second language writing skills. *The Asia-Pacific Education Researcher*, 33(4), 957-976. <https://doi.org/10.1007/s40299-024-00865-y>
- Ilmaa, A., & Rohmah, Z. (2025). AI in EFL education: Teachers' competence and the roadblocks to teaching material development. *Cogent Education*, 12(1), 2588471. <https://doi.org/10.1080/2331186X.2025.2588471>
- Kamath, A., Poojari, S., & Varsha, K. (2025). Assessing the robustness of normality tests under varying skewness and kurtosis: A practical checklist for public health researchers. *BMC Medical Research Methodology*, 25, 206. <https://doi.org/10.1186/s12874-025-02641-y>
- Karagoz, I. (2025). AI-generated feedback in English writing instruction for language learners: A systematic review. *The Reading Matrix*, 25(1), 51-67. <https://www.researchgate.net/publication/391653663>
- Kasneji, E., Sessler, K., Küchemann, S., Bannert, M., Dementieva, D., Fischer, F., Gasser, U., Groh, G., Günnemann, S., & Hüllermeier, E. (2023). ChatGPT for good? On opportunities and challenges of large language models for education. *Learning and Individual Differences*, 103, 102274. <https://doi.org/10.1016/j.lindif.2023.102274>
- Khoso, A. K., Honggang, W., & Darazi, M. A. (2026). Trust and attitude towards AI as pathways to creativity: A TAM model study of EFL students' digital literacy and AI acceptance. *Humanities and Social Sciences Communications*, 13, 69. <https://doi.org/10.1057/s41599-025-06362-x>
- Kostka, I., & Toncelli, R. (2023). Exploring applications of ChatGPT to English language teaching: Opportunities, challenges, and recommendations. *TESL-EJ*, 27(3). <http://doi.org/10.55593/ej.27107int>
- Lachenbruch, P. A., & Cohen, J. (1989). Statistical power analysis for the behavioral sciences (2nd ed.). *Journal of the American Statistical Association*, 84(408), 1096. <https://doi.org/10.2307/2290095>
- Lariba, C. F. V., & Ibojo, Ph.D, D. T. M. (2025). Teacher's attitudes towards the use of AI: A study of benefits, concerns and support needs. *International Journal of Research and Innovation in Social Science*, IX(IIIS), 5871-5876. <https://doi.org/10.47772/ijriss.2025.903sedu0426>
- Latif, M. W., & Wasim, A. (2024). Investigating EFL instructors' approaches to classroom-based assessment culture: An explanatory sequential mixed-method approach. *Language Testing in Asia*, 14, 57. <https://doi.org/10.1186/s40468-024-00332-x>
- Lin, Y., & Yu, Z. (2025). Elucidating university students' intentions to seek automated writing feedback from Grammarly: Toward perceptual and systemic predictors. *Humanities and Social Sciences Communications*, 12, 7. <https://doi.org/10.1057/s41599-024-03861-1>
- Matiwane, B. Y., & Olaitan, O. (2025). Critical success factors for integrating AI tools into university curricula for workforce readiness. *International Journal of Learning, Teaching and Educational Research*, 24(8), 91-111. <https://doi.org/10.26803/ijlter.24.8.5>

- Mekheimer, M. (2025). Generative AI-assisted feedback and EFL writing: A study on proficiency, revision frequency and writing quality. *Discover Education*, 4, 170. <https://doi.org/10.1007/s44217-025-00602-7>
- Nguyen, L. T. H., Dinh, H., Dao, T. B. N., & Tran, N. G. (2025). Teachers' perceptions and students' strategies in using AI-mediated informal digital learning for career ESL writing. *Education Sciences*, 15(10), 1414. <https://doi.org/10.3390/educsci15101414>
- Ofem, U. J., Orim, F. S., Edam-Agbor, I. B., Amanso, E. O. I., Eni, E., Ukatu, J. O., ... Abuo, C. B. (2025). Teachers' preparedness for the utilization of artificial intelligence in classroom assessment: The contributory effects of attitude toward technology, technological readiness, and pedagogical beliefs with perceived ease of use and perceived usefulness as mediators. *Frontiers in Education*, 10, 1568306. <https://doi.org/10.3389/feduc.2025.1568306>
- Ozili, P. K. (2025). Technology impact model: A transition from the technology acceptance model. *AI & Society*, 40(2), 1–3. <https://doi.org/10.1007/s00146-024-01896-1>
- Runge, I., Hebibi, F., & Lazarides, R. (2025). Acceptance of pre-service teachers towards artificial intelligence (AI): The role of AI-related teacher training courses and AI-TPACK within the Technology Acceptance Model. *Education Sciences*, 15(2), 167. <https://doi.org/10.3390/educsci15020167>
- Sari, W. D. (2025). Exploring teacher perceptions of deep learning for professional development: A technology acceptance model approach. *Jurnal Ilmu Pendidikan (JIP)*, 31(1), 115–124. <https://doi.org/10.17977/um048v31i12025p115-124>
- Sharmin, L., Kalima, R., Imran, M., Chauca, M., & Balladares, J. (2026). Teachers' perceptions of AI in supporting students' learning within a globally diverse digital setting. *Discover Education*, 5, Article 75. <https://doi.org/10.1007/s44217-025-01089-y>
- Sharmithashini, M., & Hashim, H. (2025). Sustaining ESL writing development with AI-driven automated feedback systems: A systematic review (2006–2025). *International Journal of Research and Innovation in Social Science*, 7(8), 531–550. <https://dx.doi.org/10.47772/IJRISS.2025.908000041>
- Sholikhah, S. S., Zamzami, N., & Sulistyarningsih. (2025). Teachers' and students' perceptions of artificial intelligence (AI) technology in learning activities. *Journal of Scientific Research, Education, and Technology*, 4(3), 1474–1482. <https://doi.org/10.58526/jsret.v4i3.318>
- Silor, A. C., & Silor, F. S. (2025). Boosting reading comprehension through AI-based learning tools. *International Journal of Learning, Teaching and Educational Research*, 24(9), 61–79. <https://doi.org/10.26803/ijlter.24.9.4>
- Sulewski, P. (2024). Goodness-of-fit testing for normality where alternative distributions have undefined or constant skewness and excess kurtosis. *Wiadomości Statystyczne. The Polish Statistician*, 69(9), 1–28. <https://doi.org/10.59139/ws.2024.09.1>
- Syafei, M., & Nuraeningsih, N. (2025). Leveraging artificial intelligence in writing: ELT students' perspectives and experiences. *International Journal of Learning, Teaching and Educational Research*, 24(5), 416–430. <https://doi.org/10.26803/ijlter.24.5.22>
- Tran, T. T. T. (2025). Enhancing EFL writing revision practices: The impact of AI- and teacher-generated feedback and their sequences. *Education Sciences*, 15(2), 232. <https://doi.org/10.3390/educsci15020232>
- Urzúa, C. A. C., Ranjan, R., Saavedra, E. E. M., Badilla-Quintana, M. G., Lepe-Martínez, N., & Philominraj, A. (2025). Effects of AI-assisted feedback via generative chat on academic writing in higher education students: A systematic review of the literature. *Education Sciences*, 15(10), 1396. <https://doi.org/10.3390/educsci15101396>

- Uygun, D. (2024). Teachers' perspectives on artificial intelligence in education. *Advances in Mobile Learning Educational Research*, 4(1), 931–939. <https://doi.org/10.25082/AMLER.2024.01.005>
- Vallespir-Antillón, M., Comas-Forgas, R., Touza Garma, C., & Espiñeira Bellón, E. M. (2025). Academic integrity in teacher education in the GenAI era: Academic coordinators' perspectives in Spain. *International Journal of Learning, Teaching and Educational Research*, 24(10), 166–188. <https://doi.org/10.26803/ijlter.24.10.8>
- Xue, L., Ghazali, N., & Mahat, J. (2025). Artificial intelligence (AI) adoption among teachers: A systematic review and agenda for future research. *International Journal of Technology in Education*, 8(3), 802–824. <https://doi.org/10.46328/ijte.1191>
- Xue, L., Mahat, J., & Ghazali, N. (2026). Technology acceptance model in artificial intelligence in education: A meta-analysis. *SAGE Open*, 16(1). <https://doi.org/10.1177/21582440251409441>
- Yim, I. H. Y., & Wegerif, R. (2024). Teachers' perceptions, attitudes, and acceptance of AI educational learning tools: An exploratory study on AI literacy for young students. *Future Education Research*. <https://doi.org/10.1002/fer3.65>
- Zhai, X., Chu, X., Chai, C. S., Jong, M. S. Y., Istenic, A., Spector, J. M., & Liu, J. B. (2021). A review of artificial intelligence (AI) in education from 2010 to 2020. *Complexity*, 2021, Article 8812542. <https://doi.org/10.1155/2021/8812542>
- Zhang, J., & Zhang, L. J. (2022). The effect of feedback on metacognitive strategy use in EFL writing. *Computer Assisted Language Learning*, 37(5–6), 1198–1223. <https://doi.org/10.1080/09588221.2022.2069822>
- Zhang, K. (2025). Enhancing critical writing through AI feedback: A randomized control study. *Behavioral Sciences*, 15(5), 600. <https://doi.org/10.3390/bs15050600>
- Zhang, Z. (2025). The role of generative AI and hybrid feedback in improving L2 academic writing skills. *Journal of Second Language Writing*. <https://doi.org/10.1080/17501229.2025.2503890>
- Zhang, N., Wong, W. L., & Barrot, J. (2025). Primary teachers' acceptance and sustained adoption of AI-powered learner corpora for writing instruction through TAM and ECM perspectives. *Scientific Reports*, 15, Article 37399. <https://doi.org/10.1038/s41598-025-21205-0>
- Zhang, Y., & Samsudin, M. A. (2026). From familiarity to criticality: Cultivating EFL teachers' AI literacy through an AI-integrated genre-based pedagogy. *Education Sciences*, 16(1), 150. <https://doi.org/10.3390/educsci16010150>
- Zhao, C. (2024). AI-assisted assessment in higher education: A systematic review. *Journal of Educational Technology and Innovation*, 6(4), 39–58. <https://doi.org/10.61414/jeti.v6i4.209>

Appendix 1

Survey Questionnaire on AI-Assisted Feedback Use in University EFL Writing Classes

Section A: Demographic Information

Gender (Male/Female)

Age

University Type (Public/Private)

Teaching Experience (Years)

Section B: Perceived Usefulness (TAM) – Q1-Q5

AI-assisted feedback improves students' grammatical accuracy.

AI-assisted feedback enhances students' engagement in writing tasks.

AI-assisted feedback reduces teachers' workload in writing instruction.

AI-assisted feedback helps students revise their writing independently.

AI-assisted feedback improves overall writing quality.

Section C: Perceived Ease of Use (TAM) – Q6-Q9

AI-assisted feedback tools are easy to learn.

I feel confident using AI-assisted feedback systems.

Using AI-assisted feedback requires minimal effort in my teaching routine.

Technical support is available for using AI tools effectively.

Section D: Overall Acceptance (TAM) – Q10-Q12

I am willing to use AI-assisted feedback regularly in my classroom.

I would recommend AI-assisted feedback tools to colleagues.

AI-assisted feedback should be a permanent part of writing instruction.

Section E: Pedagogical Mediation – Q13-Q17

I decide when to rely on AI feedback and when to provide personal guidance.

I adapt AI feedback to meet students' individual needs.

I guide students in interpreting AI-generated feedback.

I combine AI feedback with my own instructional strategies.

AI-assisted feedback is effective only when mediated by teachers.

Section F: AI Usage Frequency & Practices – Q18-Q24

Frequency of AI use (1=Rarely-4=Always)

AI is used for preliminary draft reviews.

AI is used for grammar and spelling correction.

AI supports students' self-revision.

AI is used alongside teacher feedback.

AI is used in formal assessment tasks.

Extent of AI integration (1=Low-3=High)

Appendix 2

Semi-Structured Interview Questions

Purpose: To explore teachers' experiences, perceptions, and classroom practices regarding AI-assisted feedback in EFL writing.

Instructions for interviewer:

Ask the following questions and probe further if needed. Responses should focus on real experiences, practices, and reflections on AI-assisted feedback.

Section A: Perceptions of AI-Assisted Feedback

How would you describe your overall perception of AI-assisted feedback in writing classes?

In your experience, what are the main benefits of using AI tools for feedback?

Are there any concerns or challenges you have regarding AI-assisted feedback?

Section B: Ease of Use and Acceptance

How comfortable are you with using AI-assisted feedback tools in your teaching?

What factors make it easy or difficult for you to use AI feedback tools?

Would you recommend AI-assisted feedback to colleagues? Why or why not?

Section C: Pedagogical Mediation

How do you decide when to use AI feedback versus giving personal feedback?

Can you give an example of how you adapt AI-generated feedback for your students?

How do you guide students in understanding and applying AI-generated comments?

Do you combine AI feedback with your own teaching strategies? If so, how?

Section D: Classroom Practices and Challenges

How frequently do you use AI-assisted feedback in your classroom?

In what ways do you integrate AI feedback into writing instruction?

Have you encountered challenges related to academic integrity, student reliance, or institutional policy when using AI feedback? Please explain.

How do you evaluate the effectiveness of AI-assisted feedback in improving student writing?

Appendix 3

Classroom Observation Checklist

Purpose: To systematically observe teachers' use of AI-assisted feedback in writing classrooms.

Instructions: Observe the teacher's practices during a writing lesson. Mark the frequency/extent where applicable.

#	Observation Item	Never (0)	Rarely (1)	Sometime (2)	Often (3)	Always (4)
1	Teacher introduces or explains AI feedback tool before use	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2	Teacher demonstrates how students should interpret AI-generated feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Teacher decides when to supplement AI feedback with personal comments	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4	Teacher adapts AI feedback to suit individual student needs	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Teacher encourages students to revise their writing based on AI feedback	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Teacher monitors students' use of AI feedback to avoid overreliance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Teacher integrates AI feedback into formal classroom activities (e.g., drafts, assignments)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Teacher addresses students' questions about AI feedback effectively	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9	Teacher reflects on or discusses limitations of AI-generated feedback with students	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	Teacher's use of AI tools aligns with pedagogical goals and lesson objectives	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>