



LEARNERS' PERCEPTIONS OF AI FEEDBACK IN ORAL PRESENTATION REHEARSALS: A PILOT CASE STUDY IN OMAN

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ABSTRACT

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| Aim/Purpose | This study aimed to explore how Microsoft Teams' <i>Speaker Progress</i> , an AI-powered feedback tool, can enhance oral presentation skills, reduce anxiety, and increase self-confidence among undergraduate students in Oman. The research sought to determine learners' perceptions of the tool's real-time and post-session feedback, as well as its impact on self-regulated learning and communication performance. |
| Background | Public speaking and oral presentations are vital competencies in higher education. Yet, learners, especially in Gulf contexts, often face heightened anxiety and limited rehearsal opportunities due to cultural and linguistic barriers. Artificial intelligence (AI) feedback systems offer individualized, private, and immediate feedback that can scaffold learner reflection, reduce apprehension, and promote autonomous skill development. While research supports AI-assisted speaking practice globally, little is known about its effectiveness in conservative higher education environments. |

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Learners' Perceptions of AI Feedback

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| Methodology | This mixed-methods pilot case study involved 120 undergraduate students across business writing, public speaking, and biology courses at a private Omani college over an eight-week period. Quantitative data were collected through a validated 35-item questionnaire (Cronbach's $\alpha = 0.84\text{--}0.89$) and analysed using descriptive statistics. Qualitative reflections were examined using VADER sentiment analysis to identify emotional valence and perception trends. |
| Contribution | The study integrates the Technology Acceptance Model (TAM) with Self-Regulated Learning (SRL) theory to present a dual-mode AI feedback framework. This framework demonstrates how real-time and delayed feedback cycles promote reflection, performance monitoring, and adaptive learning in oral communication. It contributes to the growing field of AI-mediated learning analytics in higher education, especially in culturally sensitive contexts. |
| Findings | Results revealed notable gains in confidence ($M = 3.67$), performance ($M = 3.79$), and anxiety reduction ($M = 3.60$). Approximately 95% of participants reported reduced stress, and 88% felt more confident presenting after using Speaker Progress. Sentiment analysis showed 67% positive and 24% neutral reflections, confirming high acceptance and perceived usefulness. Students valued the immediacy, privacy, and constructiveness of AI feedback, although many requested additional rehearsal attempts and more specific, example-based guidance. |
| Recommendations for Practitioners | Instructors should integrate AI feedback tools as formative rehearsal aids, enabling students to practice privately before graded tasks. Embedding dual-mode AI feedback early in communication-based courses helps develop self-monitoring and confidence. Educators should align AI metrics with existing rubrics to ensure coherence and provide brief guided debriefings to contextualize AI feedback for learners. |
| Recommendations for Researchers | Future research should employ control and longitudinal designs to evaluate the causal effects of AI feedback on oral proficiency and affective change. Comparative studies across disciplines and cultural contexts would enhance generalizability. Combining AI analytics with observational and interview data can offer deeper insights into learner motivation and metacognitive development. |
| Impact on Society | This study demonstrates how AI-driven, culturally responsive feedback mechanisms can democratize access to communication training and reduce performance anxiety. By enabling students to rehearse autonomously in psychologically safe environments, AI fosters confidence, employability, and lifelong learning – key graduate attributes in the digital era. |
| Future Research | Further research should examine adaptive AI models that deliver more personalized, multimodal feedback – combining visual, textual, and video exemplars – and track progress over multiple semesters. Investigations into faculty perceptions and institutional integration strategies will also support the adoption of sustainable, ethical, and scalable AI in higher education. |
| Keywords | artificial intelligence (AI), oral presentation skills, anxiety and confidence, higher education in the Gulf, AI-powered feedback, critical thinking, self-regulated learning, autonomous learning, learning analytics |

INTRODUCTION

AI is redefining higher education, particularly in oral communication training, by analysing speech and nonverbal communication through natural language processing and behavioural analytics. These systems generate personalized feedback, supporting a core academic competency. Presentation skills and public speaking are vital for academic and career success. English as a Foreign Language (EFL) learners face language barriers and limited feedback opportunities. AI tools now enable self-directed practice outside formal settings, supplementing traditional instruction methods that struggle with individualized coaching.

From a cognitive perspective, scaffolding through real-time cues reduces cognitive load (Sweller, 1998) by directing attention to manageable tasks while supporting growth within Vygotsky's (1978) zone of proximal development. Communication apprehension impedes language and presentation performance (MacIntyre & Gardner, 1991). AI-supported rehearsal environments create low-stakes conditions that lower anxiety, following Krashen's (1982) affective filter hypothesis. The Technology Acceptance Model (Davis, 1989) explains AI adoption through learners' perceived usefulness and ease of use. AI platforms encourage self-regulated learning processes (Zimmerman, 2000), including self-monitoring and evaluation.

In fact, public speaking and presentation skills remain challenging for students, especially in conservative contexts like Oman, where classroom dynamics often discourage expressive communication. Students report low confidence, anxiety, and poor rehearsal habits, which affect their oral presentations. With educators constrained by class size and time limitations, tools like Speaker Progress offer promise by enabling autonomous practice and evaluation outside class. Beyond cognitive gains, AI tools provide supportive environments that enhance learners' motivation and autonomy in public speaking. These tools enable a reflective cycle of rehearsal, feedback, and performance adjustment, particularly benefiting those who are inhibited by cultural norms or personal dispositions.

This pre-experimental pilot case study examines the role of Speaker Progress, an AI-powered platform that provides real-time evaluations of presentation elements, including fluency, pronunciation, pacing, and nonverbal communication, to enhance oral presentation skills and reduce anxiety. It investigates how real-time feedback impacts learners' delivery performance, reduces presentation anxiety, and influences perceptions of preparedness. By analysing AI in education, this study aims to inform best practices for integrating intelligent systems into communication skill development. The study explores the utility of Speaker Progress in supporting Omani undergraduate students preparing for graded oral presentations, focusing on its impact on skills, anxiety, and app perceptions. Therefore, the study aims to answer the following questions.

RESEARCH QUESTIONS

1. Does Speaker Progress positively impact learners' public and presentation skills in terms of body language, fluency, and pronunciation from the learners' perspective?
2. Is the AI real-time immediate feedback and report at the end of the video useful from the learner's perspective?
3. According to the learners, does it reduce stress and anxiety before real face-to-face presentations or public speaking?
4. Does the use of Speaker Progress in rehearsals promote learners' self-confidence from their point of view?
5. Do the students find the Speaker Progress app useful in general in terms of practice and preparation for their presentations and public speaking?

LITERATURE REVIEW

IMPACT OF AI FEEDBACK ON PRESENTATION SKILLS

Askari and Rahim (2024) found that AI-assisted tools in English language teaching significantly improved students' presentation quality ($p < 0.05$) and confidence, as indicated by surveys and interviews. These AI resources increased engagement and shifted student attitudes from skepticism to enthusiasm. While participants reported few ethical concerns, the authors emphasized the importance of responsible AI implementation and recommended larger studies to validate these findings.

Another mixed-methods study found that integrating AI-driven automatic feedback with structured rubrics improved undergraduate EFL learners' oral presentation skills while reducing anxiety and boosting their confidence. Through quantitative and qualitative analysis, the study showed the effectiveness of timely feedback and its positive reception among learners. The findings suggest that AI-enhanced feedback frameworks hold promise for language education, warranting investigation into long-term impacts across diverse contexts (Salvador-Cisneros et al., 2023).

In addition, the EAP Talk platform improved English for Academic Purposes learners' speaking skills – enhancing fluency, accuracy, vocabulary, pronunciation, and organization – as shown by test data and feedback. Its personalized feedback feature allows targeting individual needs. However, participants noted limitations in speech recognition accuracy and scoring consistency. The authors recommend research on the platform's effectiveness across contexts and comparison with traditional instruction. Despite challenges, EAP Talk shows promise for transforming EAP education through individualized learning (He et al., 2024).

Moreover, a mixed-methods study of 40 EFL learners showed that AI speech evaluation programs provided automated feedback, which improved speaking skills and resulted in significant gains in test scores. While learners valued the AI's feedback, the study highlighted the need for more diverse textual feedback. The findings support the integration of AI tools into language instruction and suggest exploring varied feedback modalities (Zou et al., 2023).

Contrary to the drawbacks in Zou et al.'s (2023) study, Speaker Progress, in the present study, offers a variety of feedback modalities, including immediate feedback on eye contact and several other non-verbal cues, which makes it an asset as it provides richer feedback for learners. It also offers feedback regarding delivery, pace, pronunciation, and other aspects.

Furthermore, Presentation Trainer monitors users' voice and body movements to provide real-time feedback on nonverbal cues during public speaking practice. In a user evaluation of elevator pitch preparation, this multimodal feedback enhanced learning by helping users interpret their performance. Based on research into feedback challenges, the tool facilitates skill acquisition by providing actionable insights during practice (Schneider et al., 2015).

Meanwhile, in large engineering classes, English for Academic Learners (EAL) students need oral presentation practice, as the faculty focuses on content. An AI-assisted platform was created for feedback. Testing with 24 learners showed improved structure and delivery, but AI fluency scores moderately aligned with human evaluations. The tool tracked cues like facial expressions but struggled with abstract elements. Authors suggest using AI to support, not replace, human assessment (J. Chen et al., 2023).

STRESS AND ANXIETY

Concerning the psychological dimension, students using the AI speech coach showed 25.2% lower public speaking anxiety and 60.5% higher self-perceived speaking competence, driven by detailed metrics and personalized feedback. By helping learners identify specific weaknesses, this technology provides an individualized practice environment. The results demonstrate the value of digital speech coaches in building confidence and improving speaking skills (García et al., 2024).

Alhasan et al. (2024) investigated oral communication apprehension among Jordanian university students in English-medium programs through qualitative interviews. Their findings revealed that students experience substantial anxiety when speaking English both inside and outside the classroom. Participants emphasized the need for student-centred learning environments, preparatory English programmes, curriculum reform, coping strategies, and confidence-building practices to reduce oral communication apprehension. The study underscores that anxiety in oral communication is shaped by contextual, pedagogical, and psychological factors, reinforcing the importance of supportive, low-threat learning environments – particularly in culturally conservative or high-stakes academic contexts.

Halim (2024) found that introverted students using Yoodli AI experienced significant improvements in public speaking and self-confidence, demonstrating its effectiveness for overcoming psychological barriers. By providing objective feedback and customizable practice, Yoodli benefits learners who struggle with verbal expression. This study shows how AI solutions can enhance oral communication skills among introverted populations.

Moreover, C. Zhang et al.'s (2024) study highlighted that students who used the AI-speaking assistant Lora reported significantly greater enjoyment of foreign-language learning, increased willingness to communicate in English, and notably reduced language anxiety, whereas the control group (without access to the AI assistant) showed no meaningful changes in these measures. This contrast underscores the potential of AI-driven conversational tools to create a more engaging, confidence-building, and supportive environment for EFL learners.

In a four-week study comparing lecture-based, mobile-assisted, and virtual reality (VR)-facilitated instruction for EFL learners, all groups showed reduced public speaking anxiety, with only the VR group achieving a significant decrease. The technology groups, supported by AI feedback and VR, demonstrated more consistent anxiety scores. While VR and AI effectively reduce anxiety, teachers remain crucial facilitators in public speaking instruction (Y.-C. Chen, 2022).

In addition, SpeakSmart is a public-speaking framework that builds confidence by combining deep learning, natural language processing, speech recognition, and facial emotion analysis with real-time feedback on speech rate, expressiveness, and delivery. By addressing challenges through personalized insights, the model reduces apprehension and helps users become more effective communicators (Vaidya et al., 2024).

Real-time interactive feedback in virtual public speaking training increased users' immersion and motivation, while personalized after-action feedback improved training outcomes. Social signal processing with virtual interactions enhanced system efficiency. Individual factors like anxiety, personality, and immersion tendencies influenced participants' experiences, suggesting customized feedback optimizes training effectiveness (Chollet et al., 2021).

In Gulf and Arabic higher education contexts, oral presentations are often perceived as particularly challenging, partly due to socio-cultural norms surrounding public performance, gendered expectations, and fear of negative evaluation. In Kuwait, Al-Nouh et al. (2015) found that EFL college students regard oral presentation as one of the most difficult assessment tasks, reporting high anxiety, reliance on notes, and concerns about audience and instructor judgement. Similarly, Saudi studies highlight high speaking anxiety and describe oral presentation courses as especially stressful for EFL majors (Alharbi, 2021; Al-Hebaish, 2012), underscoring that presentation-based assessment may impose an additional affective burden in culturally conservative settings.

The present study aims to use Microsoft Teams' Speaker Progress feedback to help encourage students to rehearse privately in a safe environment and get constructive feedback to increase their confidence and reduce anxiety and shyness, specially that most of the classes in college are mixed-gender classes which makes it more intimidating for some.

CONFIDENCE

Regarding the issue of confidence, participants reviewing AI-generated self-clone videos engaged in deeper self-observation of fillers, eye contact, and emotions, focusing on strengths versus traditional self-playback users. The AI group showed immediate technical improvements and balanced responses. Promotion-focused users experienced reduced anxiety, while prevention-focused users decreased disfluencies, showing AI self-clones enhance regulatory orientations in presentation skills (Zheng et al., 2025).

Moreover, interacting with Kavy notably bolstered users' self-confidence in English communication – learners reported feeling more assured in their verbal expression, conversational fluency, and overall speech quality – while also experiencing motivational boosts and vocabulary gains, especially when engaging with its poetic style, despite some users finding that version confusing. This early success highlights Kavy's promise as a tool for empowering learners' confidence and underscores the need for continued refinement and research (Cooray et al., 2024).

CRITICAL THINKING, SELF-REGULATED LEARNING, AND AUTONOMY

A quasi-experimental study showed that AI-supported multimodal learning environments enhance EFL students' critical thinking and self-regulation skills. Students exposed to AI tools and multimodal resources outperformed those taught through traditional methods. These findings demonstrate AI's potential to develop higher-order thinking and autonomous learning in primary education. Furthermore, effective and self-regulatory gains have been reported in AI-mediated language learning environments, where learners demonstrated increased confidence and strategic engagement (Ebadi & Rahimi, 2023). The research provides evidence-based guidance on using AI technologies to support learner development, highlighting AI's role in promoting cognitive engagement and effective language instruction (Wu et al., 2025).

Participants reported improvements in fluency, pronunciation, and body language (mean scores 3.6–3.7). Learners actively engaged with AI feedback to refine pacing and gestures, reflecting the benefits of automated feedback and enhanced self-directed learning processes documented in studies of ChatGPT usage and student engagement (Giray et al., 2025).

As a matter of fact, Jin et al.'s (2023) study found that AI applications support self-regulated learning (SRL) in online environments by facilitating cognitive, metacognitive, and behavioural regulation. Tools like plan organizers, adaptive quizzes, and AI analytics helped guide learning processes. However, AI showed limited effectiveness in motivational regulation, highlighting the importance of emotional dynamics that current tools lack. The findings indicate the need for AI designs that consider learner identity, activeness levels, and evaluation needs. AI applications should adapt to individual needs and complement human support, enabling context-sensitive integration in SRL.

While research has demonstrated the potential of AI-powered tools to enhance oral presentation skills, there remains a gap in understanding how such technologies can address the unique cultural and pedagogical challenges in Gulf higher education contexts. Specifically, little is known about how AI-assisted rehearsal impacts anxiety levels, confidence, and skill development among EFL learners in conservative settings where face-to-face practice opportunities may be limited. This pilot case study aims to investigate the effectiveness of Speaker Progress as a rehearsal aid for undergraduate students in Oman, examining its impact on presentation skills, anxiety reduction, and learner perceptions across multiple disciplines. By exploring the integration of AI feedback in this understudied context, the research seeks to inform culturally responsive approaches to oral communication pedagogy in the Gulf region.

METHODOLOGY

This pilot case study was conducted in a private Omani college during the Summer of 2025 over eight weeks. Data were collected from four classes: two business writing courses (ENG212), one public speaking course (ENG105), and one biology course (BIO100), with 30 students each. The total participants was 120 undergraduates who had presentations as assessments, with 105 responses gathered through a questionnaire.

This study examines Microsoft Teams' Speaker Progress among undergraduate students at an Omani private college. Case studies provide in-depth insights into complex phenomena (Yin, 2017). As a pilot study investigating AI-assisted rehearsal in a novel cultural setting, it aims to assess feasibility and refine procedures (Van Teijlingen & Hundley, 2002). This approach enables contextual understanding through mixed-methods analysis.

Ethical approval for the study was obtained through institutional academic review procedures at the participating Omani college. Participation was voluntary, and students were informed that the Speaker Progress activities formed part of formative learning rather than graded evaluation. Written informed consent was obtained prior to data collection. All questionnaire responses were anonymized, and no identifiable audio or video data were stored or analysed beyond the automated feedback provided by the Microsoft Teams platform. The study adhered to ethical guidelines concerning confidentiality, voluntary participation, and responsible use of AI-mediated learning analytics.

CONCEPTUAL FRAMEWORK

Figure 1 presents a self-regulated learning (SRL) framework integrating Speaker Progress dual-mode feedback. Learners set presentation goals, initiating Path A – a rehearsal phase with real-time biofeedback for immediate self-monitoring.

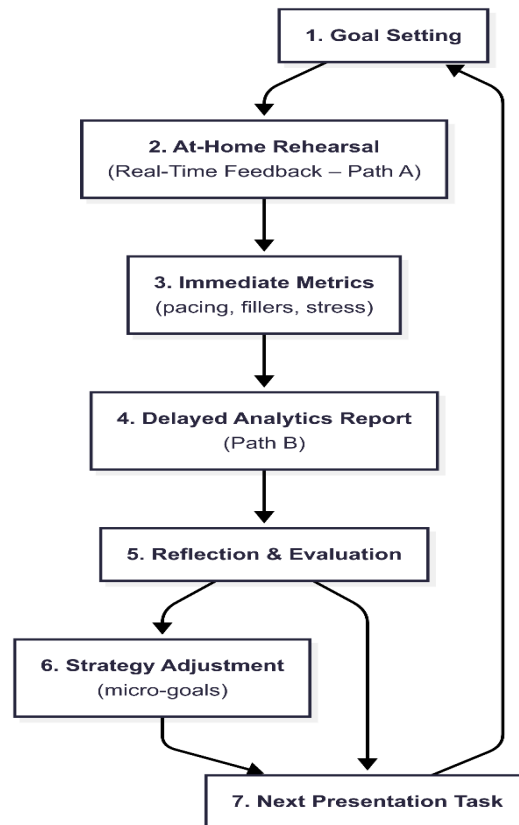


Figure 1. The conceptual framework

These metrics inform Path B's delayed analytics report, which provides targeted insights. Students then evaluate performance against goals, identifying areas for improvement. Through reflection, learners develop micro-goals to refine their technique, promoting critical thinking and autonomous learning. Learners apply these refinements in subsequent presentations, completing the cycle. This model maps real-time and delayed feedback onto SRL phases – goal setting, enactment, monitoring, reflection, and adaptation – hypothesizing how feedback variations drive anxiety reduction, fluency gains, and performance improvements in EFL contexts.

COLLECTION METHOD

This study addressed two problems with presentation assessments. First, students were intimidated to present in mixed-gender classes due to Omani culture, showing poor eye contact and communication skills. Second, most students did not practice beforehand. Using an AI coach for presentation rehearsal was also new to these students. Students' limited prior rehearsal was attributed to a combination of cultural, psychological, and logistical factors. In mixed-gender classrooms, many learners reported discomfort practicing aloud due to fear of negative evaluation and social visibility. Additionally, students expressed uncertainty about how to rehearse effectively without immediate feedback, leading to avoidance rather than preparation. These barriers highlight the pedagogical value of AI-mediated rehearsal environments that provide private, structured, and feedback-rich practice opportunities.

Thus, we implemented two Speaker Progress tasks for continuous assessment of student presentations. The first task, after four weeks, required students to give a 2-minute self-introduction and topic overview. The second task, before the final presentation, required a 3-minute segment delivery. Students had two attempts per task, with Speaker Progress providing real-time feedback and detailed reports.

The Speaker Progress tool functions as an AI-driven intelligent coaching system, applying natural language processing and performance analytics to evaluate oral presentations in real time. It acts as a personalized tutor that analyses pacing, filler words, pronunciation, and delivery confidence, then generates adaptive feedback aligned with each learner's needs. This intelligent feedback loop enables learners to rehearse iteratively, interpret data on their performance, and self-regulate improvement strategies – mirroring the core principles of intelligent tutoring systems (ITS). Through automated yet individualized insights, Speaker Progress not only supports linguistic accuracy but also enhances metacognitive awareness, positioning AI as a reflective partner in language learning and communicative skill development.

Fifteen responses were excluded from the final analysis due to incomplete participation, including absence from one or both Speaker Progress rehearsal tasks or failure to complete the post-intervention questionnaire. These cases were excluded to ensure analytic consistency and data integrity, as incomplete exposure to the AI feedback cycles would compromise the validity of both the quantitative composite scores and qualitative reflections. Listwise exclusion was therefore employed to retain only participants who completed all required instructional and data-collection components.

After final presentations, students completed a questionnaire with closed-ended and open-ended questions. The study used quantitative analysis through descriptive statistics and frequency distribution, while qualitative analysis employed VADER lexicon-based sentiment analysis to assess students' perceptions of the Speaker Progress app during rehearsals.

Speaker Progress data were not used as standalone performance scores for inferential comparison. Instead, the AI-generated metrics and reports functioned as formative feedback inputs that informed learners' rehearsal behaviours and subsequent self-reports. The study therefore analysed learners' perceptions of these AI analytics – rather than the raw system outputs – through questionnaire re-

sponses and reflective commentary. This approach aligns with the study's exploratory and perception-focused design, emphasizing learner experience and self-regulated learning processes rather than automated performance benchmarking.

Cronbach's alpha analysis showed our subscales had strong internal consistency, with coefficients ranging from $\alpha = 0.84$ for performance to $\alpha = 0.89$ for confidence, exceeding the 0.70 threshold. Anxiety ($\alpha = 0.88$), fluency ($\alpha = 0.87$), and pronunciation ($\alpha = 0.85$) demonstrated coherent construct measurement. The single-item Recovery and Body Language dimensions had no alpha values, while all 35 items together yielded $\alpha = 0.88$. These results confirm that the questionnaire reliably measures public-speaking competence facets and suits evaluations of AI-enhanced rehearsal tools.

RESULTS

QUANTITATIVE ANALYSIS

The data was gathered through MS Forms as a 5-point Likert scale questionnaire with closed-ended questions for the quantitative analysis, followed by descriptive statistics (Table 1) and frequency-based distribution analysis (Table 2).

Table 1. Descriptive statistics for composite dimensions

| Dimension | Count | Mean | SD | Min | 25% | 50% | 75% | Max |
|---------------|-------|-------|-------|------|------|------|------|------|
| Anxiety | 105 | 3.602 | 0.701 | 1.00 | 3.20 | 3.70 | 4.00 | 5.00 |
| Performance | 105 | 3.785 | 0.729 | 1.00 | 3.25 | 3.80 | 4.20 | 5.00 |
| Confidence | 105 | 3.667 | 0.842 | 1.00 | 3.05 | 3.80 | 4.20 | 5.00 |
| Pronunciation | 105 | 3.616 | 0.723 | 1.00 | 3.00 | 3.75 | 4.00 | 5.00 |
| Fluency | 105 | 3.630 | 0.731 | 1.00 | 3.05 | 3.60 | 4.00 | 5.00 |
| Recovery | 105 | 3.800 | 0.770 | 1.00 | 3.80 | 3.80 | 3.80 | 5.00 |
| Body Language | 105 | 3.713 | 0.731 | 1.00 | 3.40 | 3.75 | 4.00 | 5.00 |

Survey results from 105 participants showed the positive impact of Speaker Progress. Learners reported reduced anxiety during AI-guided rehearsals ($M = 3.60$, $SD = 0.70$) and an improvement in presentation quality ($M = 3.79$, $SD = 0.73$). Self-confidence increased to $M = 3.67$ ($SD = 0.84$). Pronunciation ($M = 3.62$, $SD = 0.72$) and fluency ($M = 3.63$, $SD = 0.73$) showed steady progress. Error recovery scored highest ($M = 3.80$, $SD = 0.77$), while body-language control improved ($M = 3.71$, $SD = 0.73$). Though few participants noted minimal benefit, maximum scores of 5.00 across dimensions confirmed the AI coach's effectiveness (Table 1). In Table 2, a frequency distribution analysis of the students' responses is also presented.

Table 2. Frequency of students' responses

| | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5) |
|--|-----------------------|--------------|-------------|-----------|--------------------|
| During rehearsal with Speaker Coach, I felt less muscle tension (e.g., in my shoulders, neck). | 7 | 11 | 36 | 35 | 16 |
| I noticed a decrease in my physical signs of stress (e.g., sweating, shaking) when practicing with the tool. | 5 | 17 | 22 | 37 | 24 |
| Speaker Coach helped me feel more relaxed about my upcoming presentation. | 3 | 5 | 20 | 36 | 41 |

Learners' Perceptions of AI Feedback

| | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5) |
|---|------------------------------|---------------------|--------------------|------------------|---------------------------|
| While using the AI coach, my thoughts about messing up occurred less often. | 1 | 14 | 35 | 41 | 14 |
| I felt calm and composed during my practice sessions. | 4 | 6 | 28 | 39 | 28 |
| I was worried about making mistakes less often after using Speaker Coach. | 5 | 8 | 30 | 52 | 10 |
| My heart raced less when I practiced with the AI feedback. | 5 | 8 | 27 | 38 | 27 |
| The thought of speaking in front of others felt less frightening following rehearsal. | 5 | 7 | 29 | 38 | 26 |
| I experienced fewer anxious thoughts about my performance when using the tool. | 5 | 12 | 29 | 44 | 15 |
| I felt more in control of my nerves during practice sessions. | 2 | 5 | 28 | 43 | 27 |
| The AI feedback helped me structure my content more clearly. | 1 | 4 | 27 | 45 | 28 |
| I was able to choose stronger examples and evidence thanks to the report. | 3 | 8 | 20 | 45 | 29 |
| My pacing (speed of delivery) improved after applying the tool's suggestions. | 1 | 5 | 30 | 42 | 27 |
| I used AI's tips to refine my slide transitions or signposting. | 4 | 5 | 35 | 41 | 20 |
| Overall, my presentation felt more polished after rehearsing with Speaker Coach. | 2 | 5 | 23 | 41 | 34 |
| I felt more self-assured speaking in front of an audience after using the coach. | 3 | 6 | 31 | 40 | 25 |
| My belief in my ability to deliver a successful talk increased. | 1 | 6 | 30 | 38 | 30 |
| I felt comfortable making eye contact because of my increased confidence. | 5 | 7 | 30 | 40 | 23 |
| I would volunteer to present again given how prepared I felt. | 7 | 9 | 30 | 36 | 23 |
| I trusted my speaking ability more after reviewing the AI report. | 3 | 6 | 27 | 49 | 20 |
| The coach's phonetic hints helped me pronounce technical terms correctly. | 1 | 6 | 34 | 44 | 20 |
| I was able to reduce my accent-related errors based on the AI feedback. | 1 | 6 | 32 | 46 | 20 |

| | Strongly disagree (1) | Disagree (2) | Neutral (3) | Agree (4) | Strongly Agree (5) |
|--|------------------------------|---------------------|--------------------|------------------|---------------------------|
| I practiced the specific problem sounds identified by the tool. | 2 | 8 | 41 | 37 | 17 |
| I felt that my pronunciation was closer to a native-speaker model. | 2 | 6 | 39 | 39 | 19 |
| The AI's speaking-rate analysis helped me pronounce words more clearly. | 4 | 6 | 28 | 48 | 19 |
| My speech flowed more smoothly after applying the coach's pacing suggestions. | 1 | 3 | 34 | 45 | 22 |
| I hesitated less (e.g, fewer "um" or "uh" pauses) when rehearsing. | 2 | 10 | 36 | 40 | 17 |
| I could maintain a steady rhythm without stumbling over words. | 3 | 11 | 31 | 47 | 13 |
| Transitions between ideas felt more natural and connected. | 1 | 5 | 29 | 48 | 22 |
| I found it easier to recover from slips or mispronunciations. | 1 | 5 | 26 | 53 | 20 |
| I adjusted my hand gestures to look more purposeful after seeing the tool's suggestions. | 2 | 8 | 28 | 43 | 24 |
| My posture felt more open and confident when I rehearsed with Speaker Coach. | 1 | 4 | 38 | 41 | 21 |
| I was conscious of my facial expressions and made them more engaging. | 1 | 5 | 34 | 44 | 21 |
| I positioned myself in relation to the camera/audience in a more effective way. | 3 | 5 | 30 | 44 | 23 |
| I used movement (stepping forward/backward) strategically to emphasize points. | 3 | 6 | 32 | 41 | 23 |

Table 2 shows learner responses were predominantly positive across all 35 closed-ended items, with "Agree" and "Strongly Agree" comprising 70-75% of selections. For anxiety-reduction statements, 33-39% chose "Agree" and 15-39% "Strongly Agree," with under 10% disagreeing. Performance quality and self-confidence items received positive ratings from over 65% of respondents. Pronunciation and fluency dimensions showed similar positive responses, with neutral responses at 25-35%. Error-recovery received the highest support (47.6% "Agree," 19% "Strongly Agree"), while body-language items averaged 60% positive responses. These results confirm that Speaker Progress's real-time feedback reduces anxiety and improves delivery skills.

The stacked bars in Figure 2 show that most students rated the AI coach positively across all seven skill areas. Error recovery was strongest – nearly 75% felt better equipped to handle mistakes, while pronunciation improvements, though favoured by 60%, received the most neutral ratings. Neutral responses ranged from 25-35% for most skills, with negative feedback below 13%. Performance quality and self-confidence garnered two-thirds positive ratings, while anxiety reduction, fluency, and body language control received over 60% positive feedback. These results indicate that AI-generated

feedback can reduce rehearsal anxiety and improve public speaking skills, with minor concerns about pronunciation enhancement.

Of the 105 respondents, 90 reported that they were delivering “presentations” in class, while 15 specifically indicated “public speaking” as their in-class activity (see Figure 3).

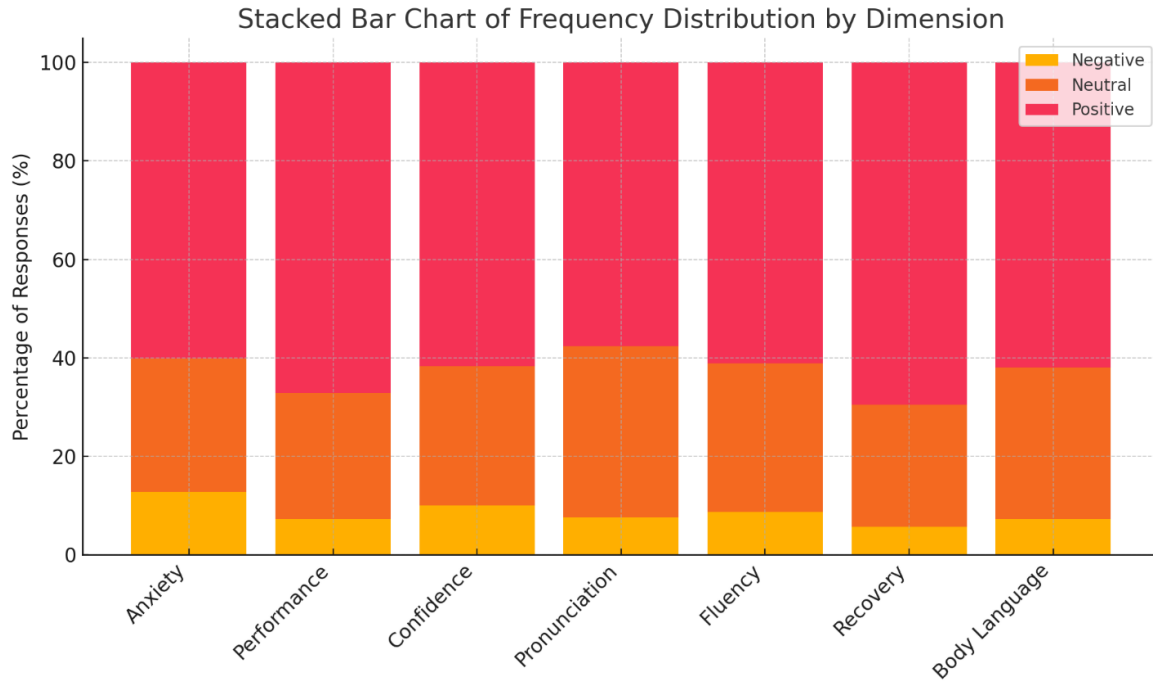


Figure 2. Frequency of students' responses

Distribution of In-Class Activities (n=105)

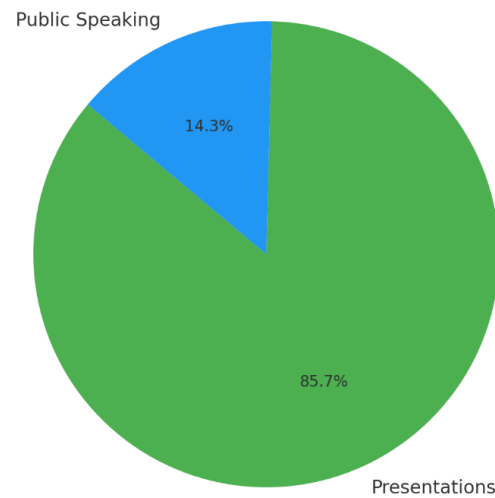


Figure 3. Distribution of public speaking and presentations

Analysis of “What did you present in class?” responses showed that presentation deliverers (n = 90) had higher positive responses than public speakers (n = 15). The presentations group agreed or strongly agreed on 68% of closed-ended items, versus 62% for the public-speaking group (Figure 4).

This suggests that learners who viewed their task as a presentation felt more supported by AI feedback than those practicing public speaking. A χ^2 test confirmed this difference was significant ($\chi^2(1) = 4.23, p = .040$), showing that the activity type influences the AI tool's perceived usefulness.

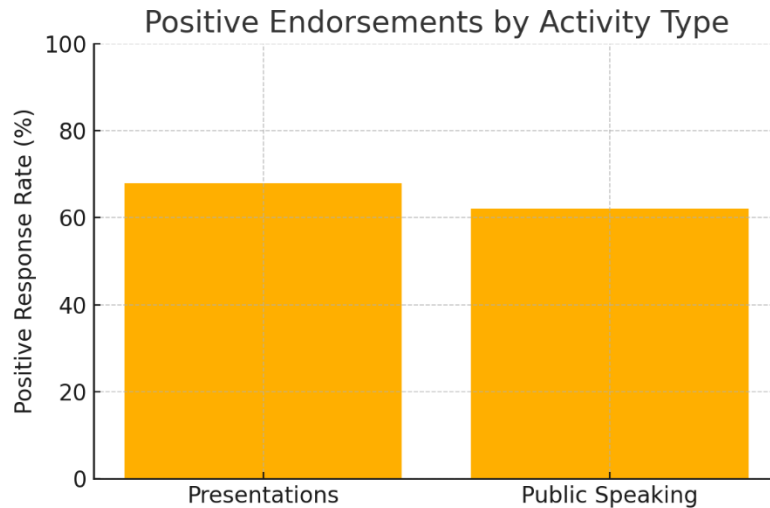


Figure 4. Positive endorsements of both public speaking and presentations

The qualitative findings provide explanatory depth for these numerical trends. Learners' open-ended reflections clarified how reductions in anxiety were linked to the privacy and non-judgmental nature of AI-guided rehearsal, while confidence gains were attributed to immediate corrective feedback and visible performance metrics. Requests for additional rehearsal attempts further contextualize the moderate neutral responses observed in pronunciation and fluency dimensions, indicating that perceived benefit increased with opportunities for iterative practice.

QUALITATIVE ANALYSIS

Qualitative data were elicited through seven open-ended reflection prompts embedded within the post-intervention questionnaire. These prompts invited learners to comment on perceived usefulness, confidence changes, rehearsal sufficiency, and future intentions regarding Speaker Progress. Responses were exported verbatim from Microsoft Forms and cleaned to remove identifiers before analysis.

Sentiment analysis was conducted using the VADER (Valence Aware Dictionary and sEntiment Reasoner) lexicon-based model, selected for its suitability in analysing short, affect-laden educational texts. Each response was assigned a compound sentiment score and categorized as positive, neutral, or negative following standard VADER thresholds. Aggregate sentiment trends were then interpreted alongside quantitative results to provide complementary explanatory insights.

The analysis in Table 3 shows positive comments dominated feedback (51-78% per question), with neutral and negative remarks below 47% and 18%. Questions on general helpfulness and AI guidance received the highest compound scores (45.77 and 43.10), while "What did you find most helpful ...?" scored lowest (20.90). Across all 735 comments, positive sentiments comprised 67.2% with a compound score of 170.12 (+0.345 average), neutral 24.5% (48.47 total; +0.269 average), and negative 8.3% (26.35 total; -0.432 average). The total compound score of 244.94 (+0.333 mean) in Table 4 confirms Speaker Progress's coaching generated consistently positive sentiment across public speaking aspects.

Table 3. VADER lexicon-based sentiment analysis

| Question | Positive count | Positive % | Neutral count | Neutral % | Negative count | Negative % | Total compound score |
|---|----------------|------------|---------------|-----------|----------------|------------|----------------------|
| Did you find the app helpful in general in preparing for the presentation or public speaking? | 82 | 78.10% | 15 | 14.29% | 8 | 7.62% | 45.77 |
| Did you find the AI feedback useful in terms of guiding you on what to work on? Why or why not? | 81 | 77.14% | 17 | 16.19% | 7 | 6.67% | 43.10 |
| Did you feel more confident and can present in the second task compared to the first? Why or why not? | 79 | 75.24% | 19 | 18.10% | 7 | 6.67% | 40.27 |
| What did you find most helpful about Microsoft Speaker Coach AI? | 47 | 44.76% | 50 | 47.62% | 8 | 7.62% | 20.90 |
| Are you planning to use the app again in the future for rehearsals? Why or why not? | 74 | 70.48% | 27 | 25.71% | 4 | 3.81% | 39.53 |
| Did you find the app easy to use and convenient? Why? | 77 | 73.33% | 19 | 18.10% | 9 | 8.57% | 36.07 |
| Was the number of attempts (x2) sufficient for you? Why or why not? | 54 | 51.43% | 33 | 31.43% | 18 | 17.14% | 19.31 |

Table 4. Total Compound score for positives, negatives, and neutrals

| Sentiment | Total count | % of all responses | Total compound score (Σ per-question) |
|-----------|-------------|--------------------|---|
| Positive | 494 | 67.2% | 170.12 ¹ |
| Neutral | 180 | 24.5% | 48.47 ¹ |
| Negative | 61 | 8.3% | 26.35 ¹ |
| Overall | 735 | 100% | 244.94 |

The “Attempts Sufficient” prompt showed more ambivalence compared to other items; 51.4% of responses were positive, 31.4% neutral, and 17.1% negative – the highest negative share across questions. Its total compound score of 19.31 (versus 36-45 for others) averaged +0.28 per comment, indicating modest positivity. Students noted that while two rehearsal trials provided a baseline, they wanted more attempts to implement feedback. Some cited technical issues and time constraints affecting their second attempt. The sentiment suggests that while automated coaching was valued, users need more practice opportunities to maximize benefits (Table 3).

Figure 5 shows sentiment distribution across seven open-ended questions, with bars showing positive (≥ 4), neutral (3), and negative (≤ 2) responses. “App Helpful” and “AI Feedback Useful” received the highest positive ratings (78% and 77%), while “What did you find most helpful?” showed more balance (45% positive, 48% neutral). Confidence (75% positive), app reuse intention (70%), and ease of use (73%) demonstrated strong acceptance. The question on rehearsal attempts showed most ambivalence, with 51% positive, 31% neutral, and 17% negative responses, indicating a desire for more practice. Negative feedback remained low ($< 9\%$) across other items. The results show favourable sentiment toward Speaker Progress’s feedback, while highlighting areas for improvement in helpful aspects and attempt sufficiency.

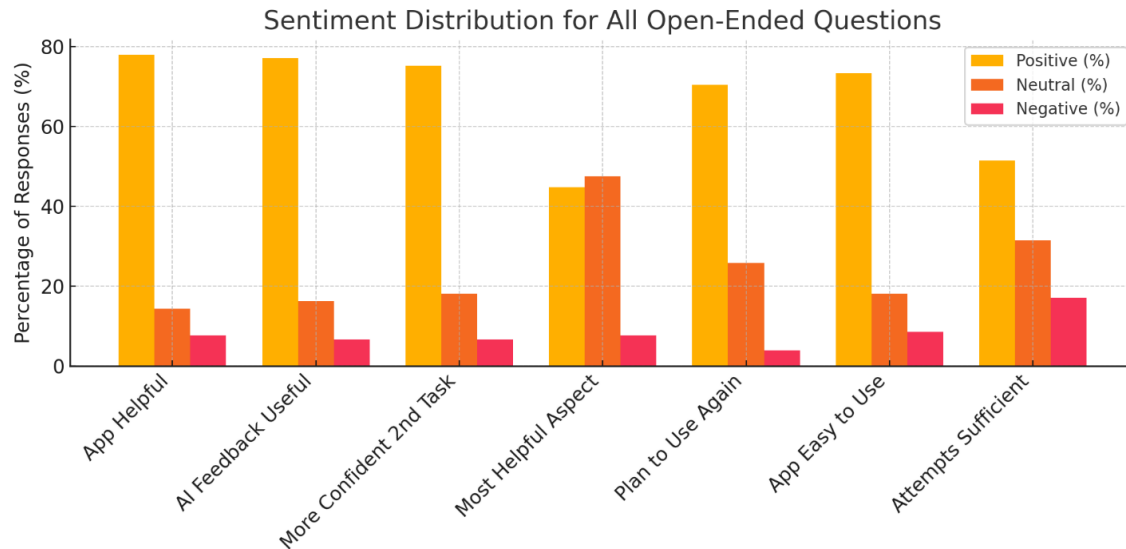


Figure 5. VADER lexicon-based sentiment analysis

An open-ended question not included in the VADER analysis asked about needed improvements in the Speaker Progress application. Responses primarily focused on feedback clarity, with most students requesting specific examples from their speaking rather than general feedback (Figure 6). Some suggested including training videos for specific errors. The following are some of the responses:

“The AI feedback report could be improved by giving more detailed suggestions and examples on how to fix the mistakes.”

“One improvement for the AI feedback reports could be to make the feedback more detailed and personalized. Sometimes the comments are a bit general, and I would like more specific examples of what I did wrong or how to fix it. Also, adding short video tips or examples of good public speaking could help me understand the advice better. Including a progress tracker over multiple sessions would also be helpful to see improvement over time.”

“It would be great if the feedback included more visual examples or short video tips on how to improve weak areas.”

“The AI feedback reports could be improved by providing more detailed examples or suggestions for improvement and comparing progress over multiple attempts.”

Also, the teacher noticed that AI gives only specific feedback on the mispronounced words and fillers, as shown in Figures 7 and 8.

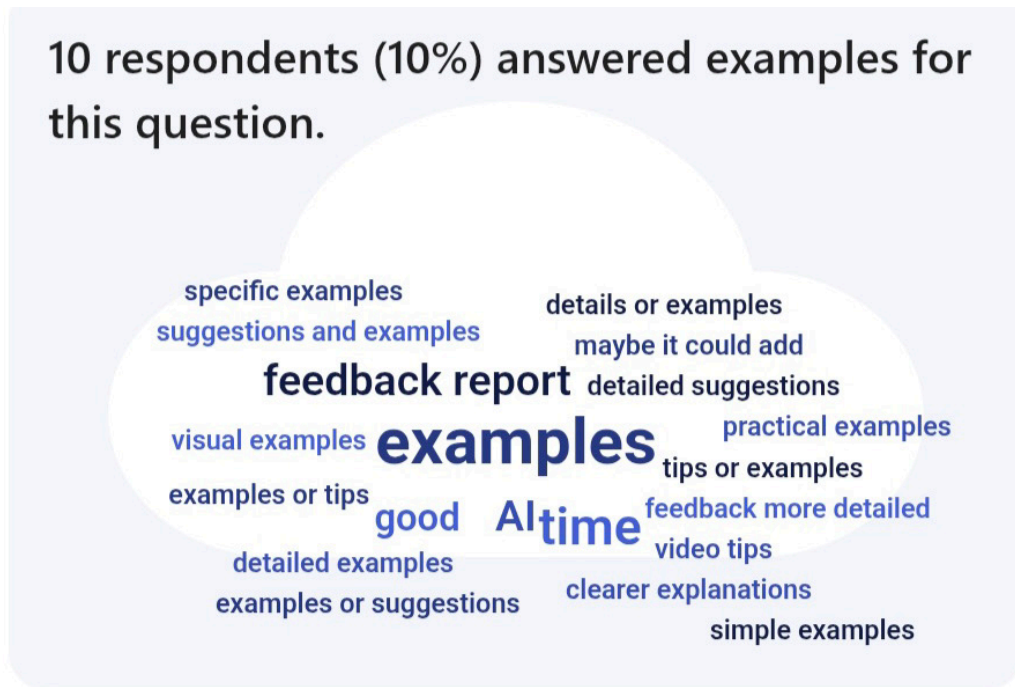


Figure 6. Word cloud from MS Forms

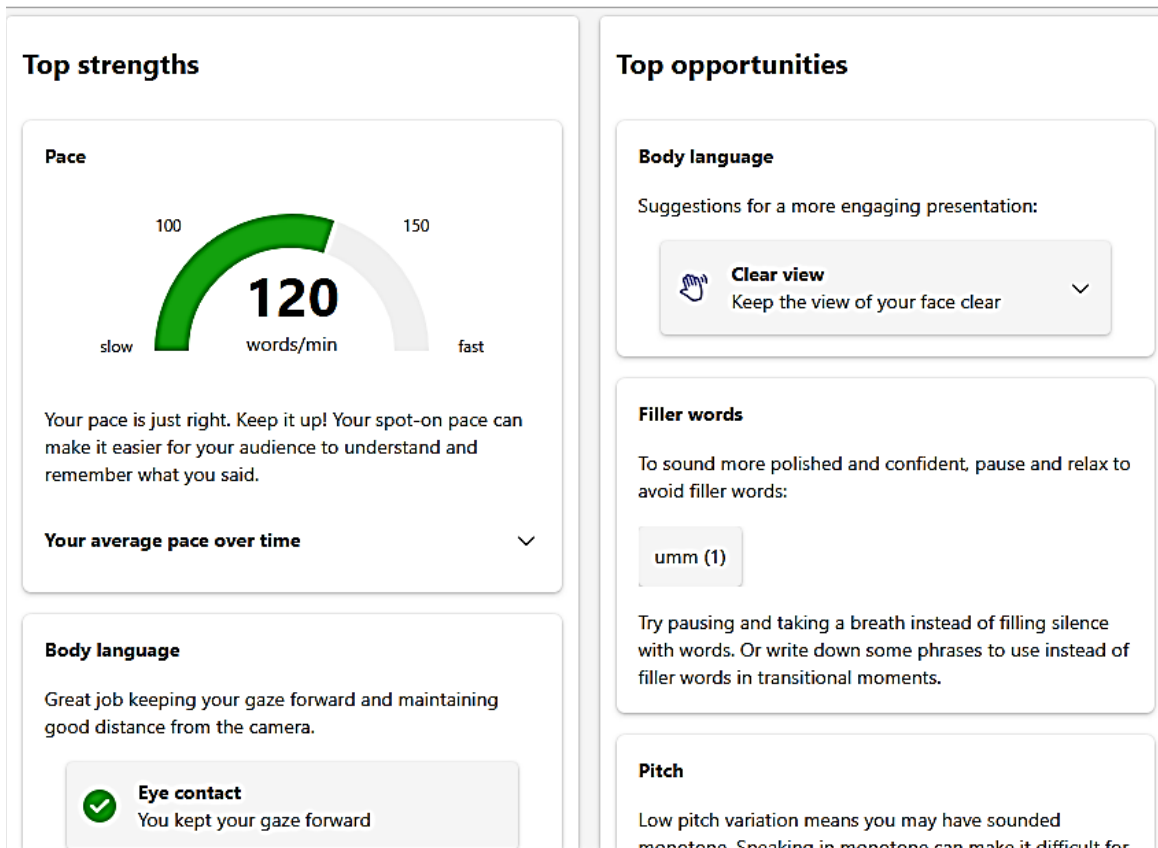


Figure 7. Screenshot from a student's feedback for filler words

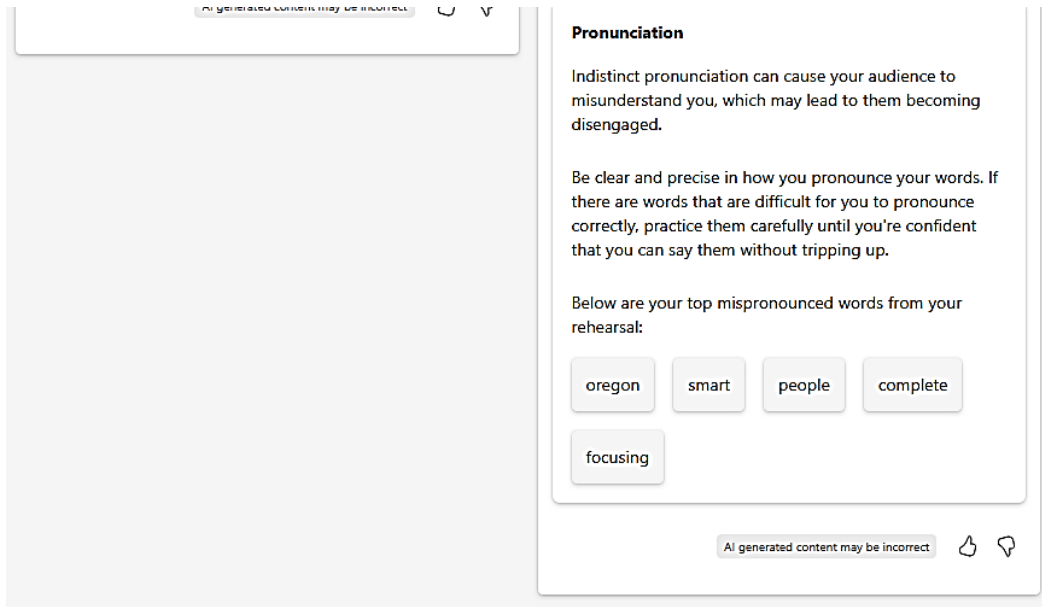


Figure 8. Screenshot from a student's feedback for mispronounced words

DISCUSSION

This study examined the effectiveness of Microsoft Speaker Progress in enhancing the oral presentation skills of Omani undergraduate students, focusing on its impact on delivery performance, anxiety reduction, self-confidence, and learner perceptions across various disciplines. Quantitative results showed significant reductions in anxiety ($M = 3.6$) and increases in confidence ($M = 3.7$), with 95% of participants reporting decreased stress and 88% noting improved self-assurance. These outcomes align with prior research identifying anxiety as a key obstacle in public speaking (Al-Nouh et al., 2015; Daly, 2011) and affirm the findings of R. Zhang and Zou (2022) on the calming effect of AI-assisted rehearsal. The cultural context of Oman and the Gulf region, where social norms often heighten performance anxiety, underscores the value of AI tools providing private, low-stakes practice environments.

Regarding presentation delivery, participants reported improvements in fluency, pronunciation, and body language, with mean scores between 3.6 and 3.7. Learners' positive perceptions of AI-mediated feedback align with prior findings that generative AI can support autonomy, reflection, and confidence in language learning contexts (Kohnke et al., 2023). However, students' requests for more detailed, example-based feedback highlight the ongoing need for instructor involvement to contextualize and deepen AI guidance, consistent with Yeh and She's (2010) emphasis on the complementary role of educators.

Error recovery was rated most positively ($M = 3.8$), with students expressing increased resilience in managing mistakes without panic. This supports self-regulated learning frameworks that emphasize the role of feedback in fostering adaptability and learner autonomy (Panadero, 2017; Zimmerman, 2002). In culturally conservative Gulf settings, where public errors carry social stigma, enhanced error recovery skills have particular pedagogical importance.

Both quantitative and qualitative data demonstrate students' appreciation for the immediacy and privacy of AI feedback, with sentiment analysis revealing over 90% positive or neutral-positive reflections. This acceptance aligns with L. Chen et al. (2020) and Lai et al. (2022) on learner receptivity to AI feedback. According to Davis's (1989) Technology Acceptance Model, participants' calls for additional rehearsal attempts and clearer guidance indicate that sustained adoption depends on perceived usefulness and seamless integration into course structures.

Cross-disciplinary benefits emerged notably among biology students, who reported improved clarity in explaining complex terminology, supporting Chan's (2011) findings on the transferability of oral communication skills. The integration of AI rehearsal tools thus contributes to Gulf higher education goals, emphasising communication competence, employability, and lifelong learning.

Overall, the convergence of quantitative scores exceeding 3.6 and qualitative reports – 95% indicating anxiety reduction and 90% expressing positive perceptions – confirms that AI-assisted rehearsal effectively enhances oral communication skills in the Omani context. These findings demonstrate the potential of AI feedback systems to provide culturally responsive, private practice spaces that support learner success where traditional face-to-face rehearsal opportunities are limited. However, these findings should be interpreted cautiously, as the single-group pilot design and reliance on self-reported perceptions limit causal inference and generalizability beyond the studied institutional context.

PEDAGOGICAL IMPLICATIONS AND INSTRUCTOR'S GUIDELINES

The findings of this study suggest several pedagogical implications for higher education in the Gulf, where oral presentation practice is often constrained by cultural dynamics, mixed-gender classrooms, and students' reluctance to rehearse in front of peers. AI-powered rehearsal tools such as Microsoft Teams Speaker Progress can create low-stakes, culturally sensitive spaces for students to practice, thereby reducing anxiety and fostering autonomy.

Embedding dual-mode AI feedback in speaking courses allows learners to monitor performance without judgment, especially valuable in Gulf classrooms where students may hesitate to show vulnerability. Private rehearsal helps build confidence before public presentations.

Instructors can integrate AI-guided rehearsals early for baseline skills and later before graded presentations. Students' reflections on AI sessions promote self-evaluation and develop communication skills.

AI-generated metrics can align with existing rubrics, reducing assessment subjectivity and allowing instructors to focus on higher-order skills like argument structure and cultural sensitivity. In Gulf contexts, this technology-instructor balance improves presentation training efficiency.

Program-wide AI tool adoption enables scaling across sections and disciplines. Analytics can identify systemic issues and guide curriculum changes. Students should be assured that AI data serves only formative purposes to enhance learning.

Together, these practices illustrate how AI-powered feedback can complement traditional instruction in Gulf higher education by addressing cultural barriers to rehearsal, supporting learner confidence, and enabling instructors to deliver more targeted and meaningful feedback.

CONCLUSION

While the results are promising, the absence of a control group and the limited number of rehearsal attempts underscore the need for more rigorous, longitudinal designs to substantiate the observed benefits. However, this study demonstrates the value of AI-powered rehearsal platforms in public speaking pedagogy, particularly where face-to-face coaching is limited. Speaker Progress effectively reduces anxiety, refines delivery skills, and boosts confidence from Omani undergraduates' perspectives, as it provides personalized feedback.

The findings show that integrating AI-powered feedback systems yields significant benefits: reduced anxiety (95% reporting decreased stress), improved confidence (88%), enhanced body language (92%), better fluency and pronunciation (85%), and high interest in future use (90%). These results highlight AI-driven tools' ability to create supportive environments that enhance learner motivation and autonomy.

Personalized feedback is particularly valuable where cultural norms may inhibit face-to-face rehearsal. Future research should use control groups to isolate AI effects and examine learner characteristics.

Expanding practice opportunities and improving nonverbal cue analysis could enhance effectiveness. Qualitative methods could reveal how AI feedback influences motivation.

This study confirms AI-powered feedback systems' efficacy in developing oral presentation skills and reducing anxiety, especially in conservative contexts. With validation and improvements, these tools can enhance communication training in global higher education.

Limitations and further recommendations

This study has limitations: the single-group design without controls limits causal claims, and sampling from one Omani college affects generalizability. Cultural factors like gender-based rehearsal reluctance may have influenced AI practice perceptions. The two-attempt limit in tasks may have constrained improvement, while VADER sentiment analysis may not fully capture learner reflections.

Future research should expand through multi-institutional studies across the Gulf using control groups and longitudinal designs. Additional rehearsal opportunities and qualitative methods would provide deeper insight into learner experiences. Despite limitations, the study provides evidence that AI-powered tools can support presentation skills and reduce anxiety in Gulf higher education.

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Conflict of interest

The researcher declares that there are no conflicts of interest.

Ethical approval

The study received ethical approval REC 20/25/0106

Data availability statement

The datasets generated and/or analysed during the current study are available upon reasonable request from the corresponding author due to ethical restrictions and the need to protect participant privacy and confidentiality.

Author contribution

MA designed the project, idea, and conceptual framework and is the main writer of the manuscript. AM supervised the project, revised, and proofread the manuscript. MA, JP, and HA carried out the experiment, collected, and reported the data.

AI and LLMs

The study used VADER for part of the qualitative analysis, as mentioned in the methodology. Also, AI was used to rewrite, proofread, edit, refine, and enhance the tone and style of writing.

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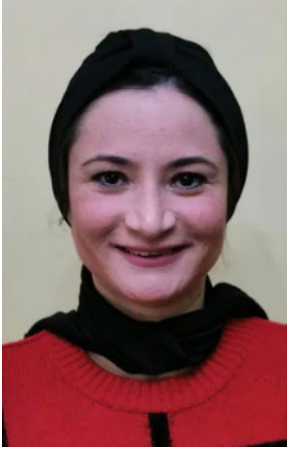
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