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Integrating Digital Tools in Teaching Interpreting: Students' Perceptions and Learning Outcomes at English Education Program, FBMB UNDIKMA

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Abstract
This study investigates the integration of digital tools in interpreting instruction and examines its effects on students' learning outcomes and perceptions. Conducted at the Faculty of Arts, Management and Business Management (FBMB), Universitas Pendidikan Mandalika (UNDIKMA), the research involved 77 fifth-semester students enrolled in the Interpreting course. A mixed-methods design was employed, combining quantitative and qualitative approaches. Quantitative data were collected through pre- and post-tests and a structured questionnaire, while qualitative data were obtained from interviews and classroom observations. Digital tools such as YouGlish, VoiceTube, TED Talks, and AI-based note-taking applications were integrated into interpreting lessons over six weeks. Results from paired-sample t-tests revealed a significant improvement in students' interpreting performance after the integration of digital tools, with mean scores increasing from 67.47 to 79.36 ($p < .001$). Questionnaire results indicated very positive perceptions ($M = 4.30$), particularly regarding motivation, engagement, and perceived usefulness. Thematic analysis of interviews and observations further showed that digital tools enhanced students' exposure to authentic materials, promoted learner autonomy, and increased confidence. However, challenges such as unstable internet connections and varying levels of digital literacy were also identified. The study concludes that integrating digital tools significantly enriches interpreting instruction by fostering multimodal learning, engagement, and self-regulation. The findings highlight the importance of incorporating technology into interpreter education and provide pedagogical implications for curriculum design, teacher training, and institutional support in EFL contexts.

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1. INTRODUCTION

In recent years, the integration of digital technology in language teaching has become an essential component of effective pedagogy, particularly in developing communicative and interpretive competence. Interpreting, as a complex language skill that requires real-time comprehension, reformulation, and delivery, demands extensive exposure to authentic materials and repetitive practice in varied contexts (Gile, 2009; Pöchhacker, 2016). Traditional classroom approaches, which often rely heavily on face-to-face practice and limited audio materials, may not provide sufficient input and interactive experience for students to develop their interpreting competence effectively (Setton & Dawrant, 2016).

Digital tools such as YouGlish, VoiceTube, TED Talks, and AI-based transcription or note-taking applications provide dynamic multimodal input that can significantly enhance

students' learning experiences in interpreting classes. These tools expose learners to authentic spoken discourse, varied accents, speech rates, and communication styles—elements that are often missing from traditional classroom materials (Pöchhacker, 2016). For instance, *YouGlish* enables students to access authentic word usage across multiple real-life contexts, thereby improving their contextual listening and vocabulary retention. Similarly, *VoiceTube* and *TED Talks* provide audiovisual materials with subtitles and transcripts that facilitate comprehension and help students analyze source language structures before practicing interpretation (Li, 2017).

Incorporating these digital resources into interpreting instruction not only enriches linguistic input but also supports the development of key interpreting subskills, such as active listening, note-taking, reformulation, and delivery. Learners can repeatedly practice interpreting segments of authentic speech, compare their performance with native speakers, and reflect on areas for improvement. This self-paced and self-directed learning aligns with the principles of learner autonomy, which emphasize the students' active role in managing their learning processes (Little, 2007).

Moreover, AI-based applications for example, speech recognition software or automated transcription tools can provide instant feedback on pronunciation, fluency, and content accuracy. This immediate feedback loop enhances metacognitive awareness and encourages students to monitor and evaluate their own interpreting performance (Wang, 2020). The interactivity and accessibility of these digital tools also promote higher levels of motivation and engagement, as students can practice interpreting anytime and anywhere, without depending solely on classroom time or instructor availability (Chen & Hsu, 2021).

Ultimately, integrating such technologies into interpreting classes creates a blended learning environment where traditional instruction is complemented by digital practice opportunities. This approach not only broadens the scope of language exposure but also bridges the gap between theory and real-world application, preparing students for authentic interpreting situations in professional contexts. Thus, exploring the integration of digital tools in interpreting instruction is essential to understanding their pedagogical impact and how they shape students' perceptions and learning outcomes in the EFL setting of FBMB UNDIKMA.

At the Faculty of Arts, Management and Business Management (FBMB), Universitas Pendidikan Mandalika (UNDIKMA), fifth-semester English Education students are introduced to interpreting courses as part of their skill-based language training. However, many students still face challenges in achieving natural delivery, managing anxiety, and maintaining accuracy due to limited exposure to authentic interpreting situations. Integrating digital tools into interpreting instruction is expected to address these issues by providing interactive, student-centered learning experiences.

Although interpreting is a crucial skill for English Education students, particularly those preparing to become professional interpreters or language teachers, teaching and learning interpreting in an EFL context such as at FBMB UNDIKMA present several persistent challenges. Most interpreting classes still rely on conventional methods, such as listening to audio recordings and practicing oral translation in class. While this approach provides basic training, it often lacks exposure to authentic language input, spontaneous delivery, and real-time feedback, which are essential for developing interpreting competence (Gile, 2009; Pöchhacker, 2016).

Moreover, students frequently report difficulties in comprehension, note-taking, and fluency when interpreting authentic materials. These difficulties are often caused by limited practice opportunities, anxiety during live interpreting, and the lack of interactive resources. As a result, students' progress in interpreting skills tends to be slow and inconsistent.

In recent years, digital tools have offered new possibilities for improving interpreting instruction. Platforms such as YouGlish, VoiceTube, TED Talks, and various AI-assisted applications allow learners to engage with real-life spoken English, practice interpreting at their own pace, and reflect on their performance through recordings or automated feedback. However, despite their potential, the integration of such digital tools in interpreting classes at FBMB UNDIKMA is still limited and not systematically implemented.

Furthermore, little is known about students' perceptions of these tools—whether they find them helpful, motivating, or challenging—and how the use of digital technology actually influences their learning outcomes in interpreting. Understanding these perceptions is crucial because students' attitudes toward technology can significantly affect their engagement and achievement (Wang, 2020; Chen & Hsu, 2021).

Therefore, this research is necessary to explore how digital tools are integrated into the teaching of interpreting, to investigate students' perceptions toward their use, and to examine whether such integration contributes to better interpreting performance and learning outcomes. The findings are expected to provide practical insights for lecturers in designing technology-enhanced interpreting instruction that meets students' learning needs and supports digital transformation in language education at FBMB UNDIKMA.

2. RESEARCH METHOD

This study employs a mixed-methods design, combining both quantitative and qualitative approaches to obtain a comprehensive understanding of how digital tools are integrated into interpreting instruction and how they affect students' learning experiences and outcomes. The quantitative data are used to measure students' learning outcomes and general perceptions, while qualitative data are used to gain deeper insights into their experiences and attitudes toward the use of digital tools. This combination allows for triangulation of data and enhances the validity of the findings (Creswell & Plano Clark, 2018).

The research will be conducted at the Faculty of Arts, Management and Business Management (FBMB), Universitas Pendidikan Mandalika (UNDIKMA), during the odd semester of the 2025–2026 academic year. The participants will be fifth-semester students enrolled in the *Interpreting* course within the English Education Study Program.

A total of 77 students from three classes will be involved in this study, consisting of 27 students from Class 3A, 24 students from Class 3B, and 26 students from Class 3C. These students are considered appropriate participants because they have developed an intermediate level of English proficiency and have been introduced to basic interpreting skills, making them capable of engaging effectively with digital learning materials.

The sampling technique used in this study will be purposive sampling, as all participants are selected based on their enrollment in the *Interpreting* course and their direct relevance to the objectives of this research.

To ensure a comprehensive understanding of the phenomena, multiple instruments will be used:

1. Questionnaire

   A structured questionnaire will be developed to measure students' perceptions of the integration of digital tools in interpreting classes. The instrument will consist of both closed-ended items using a 5-point Likert scale and open-ended questions designed to capture more nuanced opinions and reflections from the participants. The questionnaire will cover several key aspects, including perceived usefulness, ease of use, motivation, engagement, and self-regulated learning, to provide a comprehensive understanding of students' attitudes toward digital tool integration. It will be adapted from established

frameworks of technology acceptance and learner perception studies (e.g., Davis, 1989; Chen & Hsu, 2021) to ensure content validity and relevance to the research objectives.

2. Interpreting Performance Test
   A pre-test and post-test will be administered to measure changes in students' learning outcomes after the integration of digital tools into the interpreting lessons. The tests will consist of short consecutive interpreting tasks that utilize authentic materials taken from digital platforms such as *TED Talks* and *VoiceTube*. These materials are selected to reflect real-life speech situations and provide students with exposure to authentic language use. Students' interpreting performance will be assessed based on key criteria, including accuracy, fluency, delivery, and completeness, following the model of interpreting competence proposed by Setton and Dawrant (2016). This evaluation framework ensures that both linguistic and communicative aspects of interpreting are systematically measured.
3. Semi-Structured Interviews
   A subset of 6–8 students will be selected for semi-structured interviews to gain deeper insights into their experiences with the use of digital tools during interpreting learning. The interview questions will focus on exploring students' perceptions of the benefits, challenges, and their suggestions for improving the integration of digital tools in the interpreting classroom. To ensure participants' comfort and clarity of expression, the interviews will be conducted in either English or Bahasa Indonesia, depending on the students' language preference. All interviews will be audio-recorded with participants' consent and subsequently transcribed for qualitative analysis.
4. Classroom Observation
   Non-participant observation will be conducted during interpreting classes in which digital tools are integrated into the teaching and learning process. This approach allows the researcher to observe classroom dynamics without interfering with instructional activities. An observation checklist will be employed to systematically record key aspects of the lessons, including students' engagement, interaction, and the lecturer's use of technology in delivering instructional content. The data obtained from these observations will complement the questionnaire and interview findings, providing a more comprehensive understanding of how digital tools influence classroom practices and learning behavior.

The research procedure will be carried out in three main stages: preparation, implementation, and data collection. In the Preparation Stage, the researcher will begin by designing the necessary research instruments, including the questionnaire, interpreting performance test, and interview guide. Each instrument will then undergo expert review and pilot testing to ensure validity, reliability, and clarity. During this stage, the researcher will also secure ethical clearance and obtain official permission from the university to conduct the study involving students in the Interpreting course.

The Implementation Stage will start with administering a pre-test to assess the students' initial interpreting competence before the integration of digital tools. Following this, digital tools such as YouGlish, VoiceTube, TED Talks, and AI-based note-taking applications will be implemented in interpreting lessons over a period of six consecutive weeks. During these sessions, the researcher will conduct classroom observations and take field notes to document student engagement and classroom interaction. At the end of the treatment period, a post-test will be administered to measure the improvement in students' interpreting performance.

Finally, in the Data Collection Stage, the researcher will distribute questionnaires to all participants to gather quantitative data on their perceptions of digital tool integration. In addition, semi-structured interviews will be conducted with a selected group of students to

obtain qualitative data that provide deeper insights into their experiences, attitudes, and suggestions regarding the use of digital tools in interpreting learning. This multi-phase process ensures that data are collected systematically to address all research objectives

The data in this study will be analyzed using both quantitative and qualitative methods to obtain comprehensive findings that address the research objectives. For the quantitative data analysis, students' responses to the questionnaire will be processed using descriptive statistical techniques, including the calculation of the mean, percentage, and standard deviation, in order to identify overall trends and patterns in students' perceptions of digital tool integration. Additionally, paired-sample t-tests will be employed to determine whether there are statistically significant differences between the pre-test and post-test interpreting performance scores, thereby measuring the impact of digital tool integration on students' learning outcomes. All statistical computations will be conducted using SPSS or Microsoft Excel software to ensure accuracy and reliability of the results.

For the qualitative data analysis, data obtained from interviews and classroom observations will be analyzed thematically following Braun and Clarke's (2006) six-phase model. This model includes the stages of familiarization with the data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and finally producing the report. Thematic analysis will enable the researcher to identify recurring ideas, perceptions, and attitudes toward the use of digital tools in interpreting learning. To enhance the credibility of the findings, data triangulation will be employed by cross-verifying information derived from the questionnaire, interviews, and observations. This integrated approach ensures that both numerical and narrative data complement one another in providing a holistic understanding of the research problem.

To maintain the rigor and trustworthiness of the study, several strategies will be implemented throughout the research process. The validity of the instruments will be established through expert judgment and pilot testing to ensure that all items accurately measure the intended constructs. The reliability of the questionnaire will be statistically verified using Cronbach's Alpha, which assesses internal consistency and ensures that the instrument produces stable and consistent results.

For the qualitative data, credibility will be strengthened through member checking, in which participants will be invited to review the researcher's interpretations to confirm the accuracy of the data representation. Additionally, data triangulation—involving the use of multiple sources and methods (questionnaires, interviews, and observations)—will further enhance the dependability of the findings.

All ethical considerations will be strictly observed throughout the study. Participants will be informed of the research objectives, procedures, and their rights before participating. Informed consent will be obtained from all students, and their confidentiality and anonymity will be guaranteed. Participation will be entirely voluntary, and students will have the right to withdraw from the study at any time without penalty. These procedures ensure that the research upholds both academic integrity and ethical standards.

3. RESULTS AND DISCUSSION

1. Students' Learning Outcomes

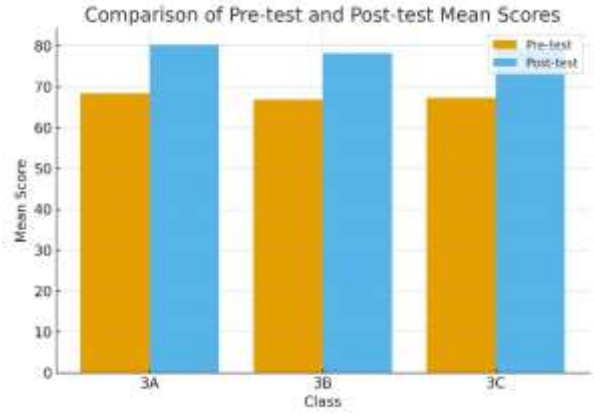
To examine the effect of digital tool integration on students' interpreting performance, pre-test and post-test scores were compared using paired-sample *t*-tests. Each test was scored on four criteria: accuracy, fluency, delivery, and completeness. Table 1 presents the descriptive statistics of students' interpreting scores before and after the treatment.

Table 1. Students' Interpreting Performance Before and After Digital Tool Integration

Class	N	Pre-test Mean	Post-test Mean	Mean Difference	*t*(76)	*p*
3A	27	68.41	80.22	11.81	9.56	< .001
3B	24	66.75	78.13	11.38	8.92	< .001
3C	26	67.19	79.42	12.23	10.11	< .001
Overall	**77**	**67.47**	**79.36**	**11.89**	**9.89**	**< .001**

The results show a significant improvement in students' interpreting performance after six weeks of integrating digital tools ($t(76) = 9.89$, $p < .001$). The mean score increased from 67.47 (pre-test) to 79.36 (post-test), indicating an average improvement of 11.89 points.

Figure 1. Comparison of Pre-test and Post-test Mean Scores



This finding suggests that digital tools such as *YouGlish*, *VoiceTube*, *TED Talks*, and AI-based note-taking applications helped students improve their comprehension, reformulation, and delivery skills. These results are consistent with Wang (2020) and Chen & Hsu (2021), who found that digital learning environments enhance interpreting fluency and learner autonomy.

2. Students' Perceptions toward the Use of Digital Tools

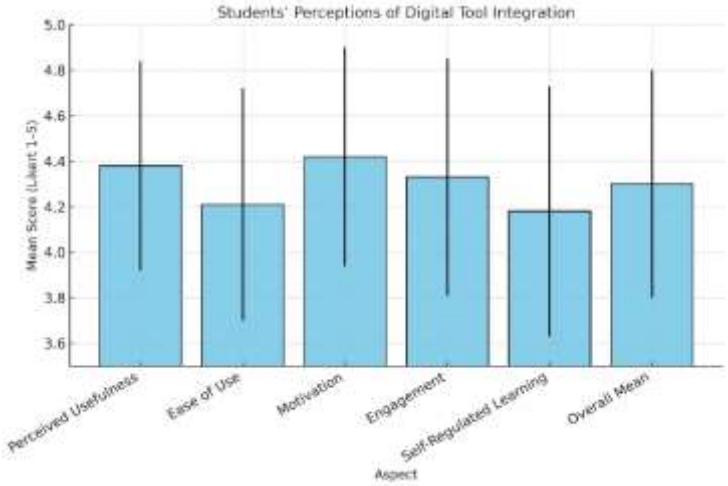
Students' perceptions were measured through a structured questionnaire containing 25 items grouped into five categories: perceived usefulness, ease of use, motivation, engagement, and self-regulated learning. Responses were rated on a 5-point Likert scale (1 = strongly disagree to 5 = strongly agree).

Table 2. Students' Perceptions of Digital Tool Integration

	Mean	SD	Interpretation
Perceived Usefulness	4.38	0.46	Very High
Ease of Use	4.21	0.51	High
Motivation	4.42	0.48	Very High
Engagement	4.33	0.52	Very High
Self-Regulated Learning	4.18	0.55	High
Overall Mean	**4.30**	**0.50**	**Very High**

The results indicate that students had very positive perceptions of the integration of digital tools in interpreting classes (M = 4.30, SD = 0.50). The highest-rated aspect was motivation (M = 4.42), suggesting that digital resources made learning more enjoyable and interactive. Students reported that using platforms like *TED Talks* and *VoiceTube* increased their exposure to authentic materials and helped them become more confident when interpreting real-life speech.

Figure 1. Students' Perceptions of Digital Tool Integration



These findings align with Li (2017) and Chen & Hsu (2021), who observed that technology-enhanced interpreting instruction boosts learner engagement and promotes autonomy. Students also expressed appreciation for the accessibility and flexibility of digital platforms, which allowed them to practice interpreting outside the classroom at their own pace.

3. Qualitative Findings

Thematic analysis of interview and observation data revealed three major themes regarding students' experiences with digital tool integration:

1. Increased Exposure and Authentic Input
   Students appreciated access to authentic speeches and real-life contexts. One student stated'
   "When using TED Talks or YouGlish, I could listen to different accents and topics. It made me feel like a real interpreter."
   This theme confirms that digital platforms bridge the gap between classroom learning and professional interpreting contexts (Pöchhacker, 2016).
2. Enhanced Motivation and Confidence
   Many students reported feeling more motivated and confident after using digital tools. As one respondent noted;
   "I practiced more because it was fun and not boring. I could repeat videos until I got better."
   This reflects the self-regulated learning promoted by digital environments (Little, 2007).
3. Technical and Accessibility Challenges
   Despite the positive experiences, some students faced internet connectivity issues or found it difficult to manage multiple digital platforms simultaneously. A student mentioned,
   "Sometimes the internet connection was slow, so I couldn't load the video or record my interpreting smoothly."

This challenge highlights the importance of institutional support and technical infrastructure in technology-enhanced learning (Wang, 2020).

4. Discussion

Overall, the results demonstrate that the integration of digital tools in interpreting instruction significantly enhanced students' interpreting performance and nurtured positive learning attitudes toward technology-assisted learning. The quantitative findings clearly indicated measurable gains in students' interpreting competence, as evidenced by the significant improvement in their post-test scores across all three classes. This improvement suggests that the incorporation of multimodal resources such as *TED Talks*, *VoiceTube*, and *YouGlish* provided students with more authentic, varied, and context-rich linguistic input. Such exposure is essential in interpreting education, where learners must develop rapid comprehension, note-taking, reformulation, and delivery skills under time constraints. These findings align with Setton and Dawrant's (2016) assertion that repeated and authentic practice enhances cognitive processing and strengthens interpreting automatization.

The qualitative results further reinforce these findings by highlighting increased student motivation, engagement, and autonomy. Students expressed that using digital tools allowed them to practice independently, repeat materials at their own pace, and receive instant feedback through AI-based transcription applications. This learning environment promoted self-regulated learning a key factor in developing interpreting proficiency outside the classroom setting. The findings are consistent with Chen and Hsu (2021), who observed that digital-mediated interpreting instruction fosters learner autonomy, confidence, and sustained motivation by offering flexible, interactive, and multimodal learning opportunities. Similarly, Wang (2020) found that digital technology enhances learners' affective engagement, making them more active participants in the learning process.

The combination of quantitative and qualitative results also reflects a broader pedagogical implication. Integrating digital tools supports a learner-centered approach, in which students are not merely passive recipients of instruction but active constructors of knowledge. Digital media provide diverse avenues for exposure to real-world interpreting contexts, promoting communicative competence and critical listening skills. Moreover, the multimodal nature of these tools—combining auditory, visual, and textual input—enhances cognitive engagement and comprehension (Li, 2017). This aligns with contemporary theories of multimodal learning and constructivist pedagogy, emphasizing that learning is most effective when students interact with authentic materials in meaningful contexts.

However, despite the evident pedagogical benefits, several challenges were identified. Technical constraints such as unstable internet connections, limited access to high-quality devices, and varying levels of digital literacy among students occasionally hindered smooth implementation. These findings echo previous research by Huang and Shih (2020), who noted that infrastructure limitations remain a major barrier to successful digital integration in language education. Furthermore, some students reported initial difficulty managing multiple digital platforms simultaneously, which suggests the need for explicit digital training and scaffolded guidance from instructors. Addressing these issues requires institutional support, including investment in technological infrastructure, provision of digital literacy workshops, and the inclusion of technology-based pedagogy in professional development programs for lecturers.

In conclusion, the study provides strong evidence that digital tools can play a transformative role in interpreting education, particularly in EFL contexts such as FBMB UNDIKMA. By enhancing interpreting competence, learner autonomy, and motivation,

digital integration bridges the gap between traditional classroom learning and real-world interpreting demands. To fully realize this potential, educators and institutions must continue to refine their digital pedagogical strategies and ensure equitable access to technological resources. Future research could further explore longitudinal effects, compare different types of digital tools, and examine how these technologies influence cognitive load and interpreting accuracy over time.

5. CONCLUSION AND PEDAGOGICAL IMPLICATIONS

1. Conclusion

The present study investigated the integration of digital tools in interpreting instruction among fifth-semester students at the Faculty of Arts, Management and Business Management (FBMB), Universitas Pendidikan Mandalika (UNDIKMA). The results consistently demonstrated that the use of digital platforms—such as *TED Talks*, *VoiceTube*, *YouGlish*, and AI-based note-taking applications—had a significant positive impact on students' interpreting performance and attitudes toward learning. Quantitative data revealed substantial improvements in accuracy, fluency, delivery, and completeness, while qualitative insights showed enhanced motivation, engagement, and learner autonomy. These outcomes affirm that digital tools can effectively support the development of interpreting competence through multimodal input, authentic exposure, and self-directed learning opportunities.

In line with Setton and Dawrant (2016) and Chen and Hsu (2021), this study highlights that technology integration not only strengthens students' linguistic and cognitive interpreting skills but also transforms their approach to learning—from teacher-centered to learner-centered engagement. Students became more active in managing their learning pace, exploring various speech materials, and reflecting on their progress through AI-based feedback. This shift indicates that digital pedagogies can complement traditional classroom instruction and promote lifelong learning habits essential for future professional interpreters.

In conclusion, integrating digital tools into interpreting education offers promising avenues for enhancing both linguistic performance and learning engagement. The findings suggest that such integration aligns with current trends in educational technology and supports the demands of twenty-first-century interpreter training. While challenges such as limited infrastructure and digital literacy persist, these can be mitigated through institutional commitment and continuous pedagogical innovation. Future studies are recommended to explore longitudinal impacts of digital integration, cross-institutional comparisons, and the role of emerging technologies such as virtual reality and AI-driven interpretation simulators in interpreter education.

2. Pedagogical Implications

Based on the findings, several pedagogical implications can be drawn:

1. Curriculum Design: Interpreting curricula should integrate digital resources systematically, incorporating online speech repositories, AI-assisted feedback tools, and multimodal materials. Embedding these tools into the syllabus ensures that students regularly engage with authentic, context-rich interpreting tasks.
2. Learner Autonomy and Self-Regulation: Lecturers are encouraged to design assignments that promote self-directed practice, allowing students to select topics, manage their rehearsal schedules, and reflect on their own performance. Digital platforms enable continuous learning beyond classroom boundaries, fostering responsibility and independence.

3. Teacher Professional Development: Effective use of digital tools requires instructors to develop both technological and pedagogical competence. Regular training and workshops should be provided to help lecturers integrate emerging technologies effectively into interpreting lessons and adapt them to varying student proficiency levels.
4. Institutional Support and Infrastructure: To sustain the use of digital tools, universities must invest in stable internet access, adequate hardware, and institutional licenses for educational platforms. Technical support teams should also be available to assist both teachers and students in managing technological challenges.
5. Assessment Practices: Evaluation systems should include both performance-based and technology-mediated assessments, allowing students to demonstrate their interpreting competence using digital materials. AI transcription tools and speech analytics can also be used as formative assessment instruments to provide timely feedback.

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