

Digital Transformation in Speaking Assessment: A Systematic Review

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ABSTRACT

ABSTRACT In the contemporary educational landscape, the evolution of educational technologies has rendered conventional assessment techniques obsolete. It is imperative for educators to employ a variety of assessment techniques that can adequately measure the evolving competencies of learners in the 21st century. In light of the rapid advancements in technology and the increasing reliance on digital tools in education, it is imperative to critically examine the current methods of speaking assessment in English language education. The present study aims to provides insights of digital speaking assessment, with a particular emphasis on its influence in the realms of language assessment. The current study used a systematic literature review (SLR) to reach the research objective. Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were adopted to ensure a thorough and transparent review process. 6 credible article that fulfil the criteria selected from ERIC and Google Scholar. The findings highlight several benefits associated with implementing digital-based in language assessment. These advantages include reduced costs, immediate feedback, relevant to students' real-world practices enhanced engagement and motivation reported among students utilizing digital speaking assessments. Based on the synthesized literature, recommendations for language assessment were proposed, this study underscores that it has a potential to revolutionize current and future language assessment if used carefully and wisely.

Keywords: Speaking assessment, digital-based assessment, systematic review

24 Introduction

In the context of education, assessment refers to the systematic collection and utilization of empirical data concerning knowledge, attitudes, skills, and beliefs (Sisinau & Puscasu 2024). It functions as a pivotal element in the educational process, furnishing educators with indispensable information to guide instruction and enhance student outcomes. In the context of English language instruction, it is imperative that assessment methods be meticulously designed to accurately gauge students' proficiencies in the four core language skills: reading, writing, listening, and speaking. The evaluation of foreign language learners' oral production has emerged as a pivotal concern for scholars in the 20th century (Koroglu, 2021). The challenges associated with assessing L2 speech articulated in historical texts from decades past illuminate the enduring challenges inherent in the medium that persist to the present day (Isaacs, 2013). In the contemporary educational landscape, the evolution of educational technologies has rendered conventional assessment techniques obsolete. In our rapidly evolving world, there is an increasing need for innovative assessment techniques that can address the diverse needs of learners and the dynamic nature of language education (Sisinau & Puscasu 2024). It is imperative for educators to employ a variety of assessment techniques that can adequately measure the evolving competencies of learners in the 21st century.

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Conventionally, speaking assessments have been administered via face-to-face interviews, oral presentations, and dialogues. While these methods are efficacious, they are not without limitations. These limitations include logistical challenges, subjectivity, and inconsistent scoring (Sisinau & Puscasu 2024). The subjective grading that results from these methods can lead to inconsistencies, thereby affecting the reliability and fairness of the assessment. On the other hand, computer-based assessments have become more commonplace than traditional paper-based tests due to a number of advantages. These advantages include reduced costs, immediate feedback, automatically recorded scores, provision of comparative tests, data collection during testing phases, suitable for adult learners, relevant to students' real-world practices, and motivation enhancement (Rostaminezhad, 2019; Lu et al., 2023; Sarigoz, 2023; Fahrughazi et al., 2023; Perry, 2024).

In light of the rapid advancements in technology and the increasing reliance on digital tools in education, it is imperative to critically examine the current methods of speaking assessment in English language education. The shift towards digital assessments necessitates an urgent need to understand their validity, reliability, and impact compared to traditional methods. This study is crucial in ensuring that speaking assessments remain fair, accurate, and effective in diverse educational contexts. Furthermore, it is essential to examine the washback effects of these assessments on teaching practices and learner motivation to optimize language education outcomes. Therefore, the present study aims to provide insights of digital speaking assessment, with a particular emphasis on its influence in the realms of language assessment. In addition, this study intends to provide actionable recommendations for educators, policymakers, and test developers on integrating traditional and digital speaking assessment methods to enhance their reliability, fairness, and applicability. Through this comprehensive analysis, the study will contribute to the ongoing discourse on optimizing language assessment practices for diverse educational contexts.

25 Research Methods

The current study used a systematic literature review (SLR) to reach the research objective. SLR is a method of gathering then summarizing previous research that related to the research focus. Researchers typically collect available evidence on a topic or issue prior to conducting new research to assess the state of the already available evidence (Linnenluecke et al., 2020). Furthermore, the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines were adopted to ensure a thorough and transparent review process (figure 1). Utilizing a PRISMA flow diagram facilitated the documentation of the study selection process, encompassing identification, screening, eligibility, and inclusion. This approach ensured a systematic and transparent overview of the data collection process. The first article search was conducted on 14 December to 22 December. Finally, 6 credible article that fulfil the criteria selected. Those selected article were collected from ERIC and Google Scholar. The selection of articles considers several criteria: relevance to topics, international journals, recency (publication of the most recent six-year-old articles), and in educational area.

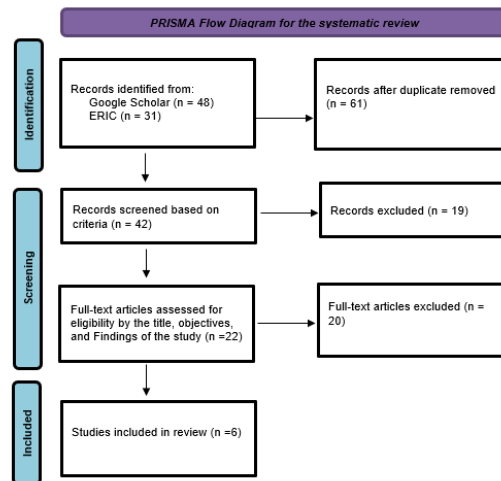


Figure 1: Prisma Flow Diagram for the Systematic Review

26 Result and Discussion

After taking full-text screening and eligibility analysis, 6 credible articles have been selected for final analysis.

Table 1: Six of credible articles have been selected for final analysis

Title and Author	Objectives	Main findings
Automated versus peer assessment: Effects on learners' English public speaking (Zheng et al., 2024)	The objective of the present study is to empirically investigate the effects of peer and automated formative assessment on learners' EPS self-efficacy, engagement, and competence	Findings of this study shows no significant difference between the two assessment modes in terms of their effects on learners' overall EPS self-efficacy, engagement, and competence. It demonstrates that automated assessment may serve as an alternative to peer assessment once AI technologies are mature enough to ensure accuracy in automated scoring and provide personalized feedback on learner performance
Podcasting as a form of assessment: increasing student motivation in academic English speaking assessment (Perry, 2024)	The purpose of this study was to increase student motivation through self-determination theory (SDT), using innovative assessment methods in academic speaking	The findings reported that 51.4% responded with "yes," 42.9% with "maybe," and just 5.7% responded with "no." This indicates that overall, the podcasting as a form of academic spoken assessment was a success, and the students who participated would be happy to repeat the process. One of the reasons to conduct podcasting as a form of spoken assessment was to enable students to relate their academic English discourse to the realities of how they engage with the language

Title and Author	Objectives	Main findings
Methods Of Assessing Students' Knowledge in English Language Lessons (Sisianu & Puscasu, 2024)	The aim of this article is to explore these diverse assessment methods, examining their effectiveness, advantages, and limitations, to provide educators with a detailed understanding of how to implement a comprehensive assessment strategy in English language education	By integrating traditional, performance-based, formative, and technology-enhanced assessments, educators can create a robust and comprehensive assessment strategy. This integrated approach not only measures students' proficiency accurately but also promotes continuous learning and improvement. It recognizes that different assessment methods have unique strengths and can complement each other to provide a fuller picture of student learning
Digital Technologies for the Assessment of Oral English Skills (Gutiérrez-Portlán et al., 2022)	The ultimate goal of this study is to promote the use of digital technologies for the assessment of students' oral skills. Thus, we have designed the AROSE platform and AROSE open educational resources. These tools will be useful for supporting teachers' work in the classroom, and they will help teachers to assess and improve the oral competences of their students	Overall, the satisfaction with the platform was high, as well as the use that has been made of it. The data presented demonstrate that digital tools are important for teaching and learning English, along the same lines as other previous research, which have demonstrated the same among these last few years
Pronunciation Assessment: Traditional vs Modern Modes (Babaeian, 2023)	This article discusses the significance of pronunciation in linguistic competence and its role in effective communication for English speakers. It highlights the potential issues arising from human-rated pronunciation assessments, including inconsistency and bias	In summary, this article emphasizes the importance of pronunciation in linguistic competence and its role in effective communication for English speakers. It discusses the potential issues with human-rated pronunciation assessments, such as inconsistency and bias. To address these challenges, the article explores the adoption of AI-powered platforms for pronunciation assessment, which offer swift results while maintaining high validity standards. These platforms rely on technologies like Automatic Speech Recognition (ASR) and speech analysis programs to evaluate pronunciation skills based on suprasegmental features like stress and intonation
Online versus Face-to-Face Public Speaking Outcomes: A Comprehensive Assessment (Broeckelman-Post et al., 2019)	The goal of this study is to examine whether there are differences between online and face-to-face public speaking courses in speech performance, course performance, and self-report communication competence and anxiety	This study provided a comprehensive assessment of online and FTF public speaking courses and found that there were negligible differences between the course formats in students' public speaking performance, course performance, public speaking anxiety reduction, enhanced communication competence, and student engagement

The objective of the present study is to furnish insights into the realm of traditional and digital speaking assessments. A comprehensive review of literature revealed several pivotal insights into the evolving landscape of speaking assessments in English education. One of the most significant findings is the enhanced engagement and motivation reported among students utilizing digital speaking assessments (Zheng et al., 2024; Perry, 2024; Sisianu & Puscasu, 2024; Gutiérrez-Portlán et al., 2022; Babaeian, 2023; Broeckelman-Post et al., 2019). Interactive and dynamic digital tools, such as speech recognition software and interactive speaking platforms, have been demonstrated to engender a more engaging learning environment. In line, the study of Köroğlu, (2021) reported that digital formative assessments have been demonstrated to facilitate the development of students' speaking skills, particularly in terms of fluency and accuracy.

Furthermore, the utilization of technology in the domain of language assessment has the potential to mitigate the impact of individual bias and subjectivity, thereby enhancing the consistency of grading processes. This is in line with the previous research of (Sun, 2023; Moere & Downey, 2016) digital based assessment provide consistent, objective, and unbiased evaluations. In addition, one of the undoubted advantages of computer-delivered speaking tests is their high reliability. According to Galaczi, (2015) Computer-delivered speaking tests boast a number of advantages, including their high reliability. This is due to the standardization of test prompts and delivery, which eliminates any interviewer variability. Each prompt is delivered in an identical way, regardless of where the candidate takes the test. This, in turn, eliminates measurement error due to interviewer variability.

Additionally, the impact and washback of digital-based speaking assessments are contingent upon the context of use. Such assessments can exert a positive impact in circumstances where there is an absence of development or assessment of speaking skills. It is evident that any speaking test, even one devoid of interactional features, can prove advantageous for learning and teaching purposes (Galaczi, 2015). Immediate feedback is also one of many benefits that digital-based assessment tools can provide. A number of studies have demonstrated that one of the functionalities pursued is the automatic grading of students (González-Calatayud et al., 2021). A considerable number of educators and students, particularly students, advocate for the provision of immediate feedback, assuming that such feedback enhances learning (Lu et al., 2023). Consequently, numerous online courses, learning platforms, and applications have been developed to facilitate learning through the utilization of immediate feedback. In addition, Rostaminezhad, (2019) reported that immediate feedback was perceived by some students as an opportunity to review mistakes and improve self-assessment, which would have a positive effect on performance.

27 Conclusion

This systematic review has shed light on the impact of technology on language assessment. Moreover, digital-based tools offer significant benefits, including the reduction of bias, the provision of consistent and objective evaluations, immediate feedback, also motivation and engagement that has the potential to enhance student performance in speaking skills. These advantages have the potential to transform traditional language assessments, rendering them more reliable, unbiased, and effective.

In conclusion, this paper has provided a thorough overview of literature published during 2019 and 2024, focusing on the influence of digital-based tools in the realms of language assessment. By offering detailed findings and discussions, this study addresses the existing gap in the literature concerning the opportunities and the impact of digital-based assessment. Underscores that it has a potential to revolutionize current and future language assessment if used carefully and wisely.

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