

Technology-enhanced language assessment

Tokhirova Mokhinabonu Rustam kizi

Telephone number: +998919910405

Email: mokhinabonutokhirova@gmail.com

Abstract: Technology-enhanced assessment refers to using digital tools and technologies to facilitate and improve the process of assessing knowledge, skills, and competencies. This assessment form offers unique advantages over traditional paper-based methods, including increased efficiency, enhanced interactivity, and the potential for personalized and adaptive testing. This abstract explores technology-enhanced assessment's benefits, challenges, and implications in educational settings. It discusses the role of various technologies, such as computer-adaptive testing, automated scoring, and online assessment platforms, in transforming assessment practices.

Keywords: Technology-enhanced assessment, digital assessment, computer-based testing, online assessment, computer-adaptive testing, automated scoring, assessment tools, assessment validity, assessment reliability

Introduction: In the digital age, traditional paper-based assessments are being reimaged through interactive technologies, adaptive systems, and data-driven insights. It is imperative to look to different ways of engaging and empowering students in assessment (Nicol & McFarlane-Dick, 2006; Boud & Associates, 2010). Advancements in technology have revolutionized the landscape of education, bringing forth an era of innovative and dynamic assessment practices. Technology-enhanced assessment, defined by integrating digital tools and platforms into the evaluation process, has sparked a significant shift in how learning outcomes are measured and analyzed. Interest in TEA has grown in higher education as an approach for enabling peer-, self-, and teacher-evaluation and responding to assessment difficulties such as remote and flexible learning, massive student enrollments (Oldfield et al., 2012; Whitelock & Watt, 2008), and the provision of “constructive, timely and ‘easy to understand’ feedback” (Whitelock, Gilbert, & Gale, 2011, p. 2). As we navigate through this rapidly evolving educational landscape, it is essential to understand how technology-enhanced assessment can optimize learning, address diverse student needs, and foster a deeper understanding of academic achievement. Embracing the potential and impact of technology in assessment is not only advantageous but also instrumental in shaping a more inclusive and effective educational ecosystem. This article aims to explore the multifaceted impact of technology on assessment practices, delving into the benefits, challenges, and emerging trends that shape the future of educational evaluation.

First of all, we should define the meaning of technology-enhanced assessment. Technology-enhanced assessment (TEA) is a broad term that encompasses the diverse methods, by which technology can be used to support the management and delivery of assessment in educational institutions, in the workplace and lifelong learning, in professional training and development, and so on (Vladan Devedzic, Mirjana Devedzic; International Journal of Learning and Teaching Volume 11, Issue 3, (2019)). Computer-based testing, online assessment, and computer-adaptive testing can be counted as technology-enhanced testing systems. TEA methods and tools provide rich learning experience, improve learning efficiency, and increase knowledge retention (Broadfoot et al., 2016). Indeed, in our rapidly developing technology century, digital assessment is being used for many reasons, especially to evaluate language acquisition since it has the following merits:

1. **Enhanced Interactivity:** Technology-based language testing allows for interactive item types, multimedia integration, and real-time feedback, providing a more engaging experience for test-takers and enabling a richer assessment of language skills beyond traditional multiple-choice questions. According to JISC's *Effective Assessment in the Digital Age* (2010), TEA is the "use of technology to extend or add value to assessment and feedback processes" (p. 57).
2. **Efficient and Timely Grading:** Automation of scoring in technology-based assessments streamlines the grading process, providing more efficient and quicker assessment results, which in turn allows for more timely decision-making on test scores and language proficiency levels.
3. **Personalized Learning:** Technology-based assessments often enable adaptive testing, where the difficulty of test items adjusts based on the test-taker's responses, allowing for a more personalized evaluation of proficiency and a finer-grained understanding of a test-taker's abilities. Based on Oldfield et al. (2012), digital technologies have the potential to drastically alter assessment through methods like utilizing a variety of assessment types to give students a choice, creating novel approaches to summative evaluation, capturing a range of skills and competencies like teamwork and peer interaction, and utilizing data analytics to guide assessment procedures.
4. **Accessible Test Administration:** Technology-based tests can be delivered remotely, allowing for more accessible assessment options for test-takers who may not have easy access to traditional testing centers. This inclusivity fosters a more diverse pool of test-takers.
5. **Comprehensive Data Analysis:** Technology-based language tests can provide detailed analytics on test scores, examining performance across various language skills, domains, and specific test items. These insights help identify areas of strength and weakness and inform targeted learning interventions.
6. **Authentic Communication Practice:** Certain technology-based assessments use multimedia elements, virtual simulations, or live speaking assessments, allowing test-takers to engage in more authentic language use and practical language tasks that mimic real-world communication scenarios.
7. **Remote Proctoring and Security:** With the advancements in technology, remote proctoring solutions have improved test security for online assessments, helping to ensure the integrity of the testing process and maintain the fairness and validity of test results.
8. It can be described as an eco-friendly testing style as we don't need hundreds of exam papers that will turn into waste later.

However, there is a question: Is technology-based language assessment reliable? The answer is "Yes". Technology-based language assessment can be reliable when properly designed, administered, and validated. The reliability of technology-based language assessment primarily depends on several factors:

- ❖ **Test Design:** The design of technology-based language tests should ensure that the test items accurately measure the intended language constructs. Well-crafted items, appropriate test specifications, and clear alignment with language proficiency standards contribute to the reliability of the assessment. According to Nicol (2008), social media and LMS technologies can also help the task design stage of the assessment cycle. For instance, they can offer flexibility in scheduling assessments, giving students greater control over their education, and they can help students acquire knowledge, skills, and attitudes from a diverse social network.

- ❖ **Scoring Consistency:** Reliability is enhanced when scoring criteria are well-defined and consistently applied, ensuring that test-taker responses are evaluated uniformly across different scorers or testing sessions. Clear rubrics and robust scoring algorithms promote scoring consistency.
- ❖ **Piloting and Validation:** Piloting technology-based assessments and conducting rigorous validation studies are essential to assess the reliability of the assessment. These measures help identify potential flaws, provide evidence of construct validity, and offer insights into the stability of the test results over time.
- ❖ **Test Security:** Incorporating robust test security measures, including plagiarism detection, identity verification, and secure browsing environments, is crucial for maintaining the integrity and reliability of technology-based language assessments.
- ❖ **Data-Driven Review:** Ongoing analysis of test performance, item characteristics, and statistical measures, such as item discrimination and difficulty indices, contributes to the ongoing validation and refinement of technology-based assessments, enhancing their reliability.
- ❖ **Accessibility and Equivalence:** Reliable technology-based assessments are inclusive and provide equivalent testing experiences across different administration modes, ensuring fairness and comparability of results.

Uncritical adoption of (new) technologies in assessment, on the other hand, poses significant risks, ranging from assessment security and system failure to the influence on learners and teachers, including the integrity of education (Andreou et al.2021). Access and equity, test security, and technical issues can be major challenges while using TEA in an ordinary classroom and it is imperative to define them:

Access and Equity: Ensuring equal access to technology and the Internet for all test-takers can be a challenge, particularly in regions with limited technological infrastructure, resources, or digital literacy.

Test Security: Maintaining the security and integrity of technology-based testing, including preventing cheating, ensuring identity verification, and securing test content, presents ongoing challenges, especially in remote testing environments.

Technical Issues: Potential technical glitches, such as internet connectivity problems, software compatibility issues, or platform malfunctions, can disrupt the testing process and negatively impact the test-taker experience.

Addressing these challenges requires a holistic approach, involving robust test design, thorough training, equitable access to technology, secure test administration, and ongoing data protection measures, among other strategies. While technology-enhanced language assessments offer numerous advantages, navigating these challenges ensures the responsible and effective use of technology in language assessment.

Concluding remarks

While predictions for the next ten years in technology may highlight broader changes in work, (health), and society (Gartner2015), more fundamental to HPE is how learning technologies will shift their axes to focus on people—transformative competencies (e.g. creativity and innovation), learner agency, and well-being (OECD2015). These present intriguing opportunities for TEA, particularly in terms of assessing learners' abilities to engage with these technologies to support their self-regulation, development, contribution, and self-care (MEDICAL TEACHER 2022, pp.-836–850).

Looking ahead, the future of assessment is poised to be shaped by further advancements in artificial intelligence, adaptive learning systems, and inclusive assessment design. Embracing the dynamic landscape of technology-enhanced assessment offers an opportunity to revolutionize how learning outcomes are measured, providing valuable insights into student progress, individualized support, and informed decision-making.

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