



FORMATIVE AND SUMMATIVE ASSESSMENT IN FOREIGN LANGUAGE

LEARNING: INTEGRATING MULTIMODAL AI-DRIVEN APPROACHES

Mahbuba Berdiqulova

Laylo Absattorova First-Year Student, Faculty of Foreign Languages

Gulistan State Pedagogical Institute, Uzbekistan

Abstract: *This article examines the conceptual and practical frameworks of formative and summative assessment within the context of Foreign Language Learning (FLL). As the educational landscape increasingly integrates Artificial Intelligence (AI) and multimodal technologies, the traditional boundaries between "assessment for learning" and "assessment of learning" are being redefined. Drawing on the latest research from the Scopus database, this study explores how AI-driven tools can provide continuous diagnostic feedback (formative) while maintaining the rigor required for final evaluations (summative). The paper analyzes the perceived opportunities—such as personalization and efficiency—alongside critical challenges including validity, reliability, and algorithmic bias. The conclusion emphasizes a balanced pedagogical approach that leverages AI to create a more holistic and responsive assessment environment.*

Keywords: *Formative Assessment, Summative Assessment, Foreign Language Learning, Artificial Intelligence, Multimodal Testing, Pedagogy.*

1. INTRODUCTION

Assessment is widely recognized as the cornerstone of effective language pedagogy. In the realm of Foreign Language Learning (FLL), assessment serves multiple functions: it measures student progress, guides instructional decisions, and provides accountability for educational outcomes. Traditionally, these functions have been divided into two major categories: formative and summative assessment.



Formative assessment is an ongoing process aimed at monitoring student learning to provide feedback that can be used by instructors to improve their teaching and by students to improve their learning. Summative assessment, conversely, is used to evaluate student learning, skill acquisition, and academic achievement at the conclusion of a defined instructional period. With the advent of the Fourth Industrial Revolution, the integration of Artificial Intelligence (AI) has introduced a "new era" of language testing. Modern EFL (English as a Foreign Language) practitioners are now faced with the challenge and opportunity of using multimodal AI tools—systems that process text, audio, and visual data simultaneously—to assess communicative competence. This article aims to explore the synergy between formative and summative assessment in this technology-rich environment, synthesizing current academic perspectives on their implementation.

2. THEORETICAL FRAMEWORK

2.1. Assessment for Learning (AfL) vs. Assessment of Learning (AoL) The theoretical distinction between formative (AfL) and summative (AoL) assessment is rooted in the purpose of the evaluation. AfL is prospective; it looks forward at what the student needs to master next. It often involves low-stakes tasks, such as classroom discussions, journals, and peer reviews. In language learning, this is crucial because linguistic competence is a developmental process that requires constant adjustment. AoL is retrospective; it summarizes what has been achieved. It is typically high-stakes, including final exams, standardized proficiency tests, and certification modules.

2.2. Expectancy-Value Theory (EVT) in Technology Integration To understand why teachers adopt certain assessment tools, researchers often apply the Expectancy-Value Theory. This framework suggests that a teacher's choice to use AI-driven formative or summative tools is based on two factors: the expectation of success (how easily they can use the tool) and the perceived value (how much it improves student outcomes). As multimodal AI becomes more prevalent, the "value" of these tools is increasing due to their ability to provide data-driven insights that were previously impossible to generate manually.



3. THE ROLE OF FORMATIVE ASSESSMENT IN FLL

Formative assessment is particularly vital in language learning because it addresses the “feedback loop” Language learners need to know not just that they are wrong, but “why” they are wrong and how to improve. Multimodal AI tools have revolutionized this by offering “Corrective Feedback” in real-time. For instance, AI-driven writing assistants can provide immediate suggestions on grammar, tone, and lexical diversity, allowing the student to revise their work iteratively. Furthermore, formative assessment encourages "Self-Regulated Learning" (SRL). When students use AI platforms that track their progress across different skills (listening, speaking, reading, writing), they become more aware of their own strengths and weaknesses. This metacognitive awareness is a key predictor of success in mastering a foreign language.

4. SUMMATIVE ASSESSMENT AND THE CHALLENGE OF VALIDITY

While formative assessment focuses on growth, summative assessment must ensure "Construct Validity"—the degree to which a test actually measures what it claims to measure. In the context of AI-driven summative testing, this remains a significant point of debate. Critics argue that while an AI might be excellent at scoring a multiple-choice grammar test, it may struggle to evaluate the nuances of human communication, such as sarcasm, cultural context, or pragmatic competence. Moreover, the "Washback Effect" of summative assessment is a major concern. If a final exam only tests rote memorization, teachers will "teach to the test," neglecting the communicative aspects of the language. However, modern multimodal AI allows for summative tests that include complex simulations, such as interacting with an AI avatar in a virtual environment. This pushes summative assessment closer to real-world language use, potentially creating a positive washback effect where students are encouraged to practice authentic communication.

5. OPPORTUNITIES OF AI-DRIVEN MULTIMODAL TESTING

The integration of AI into both assessment types offers several transformative opportunities for the foreign language classroom: Personalized Assessment: AI can



adjust the difficulty level of questions in real-time based on the student's performance, ensuring that the test is neither too easy nor discouragingly difficult. **Assessment of Productive Skills:** Traditionally, assessing speaking and writing for large groups was time-consuming for teachers. AI-driven Automated Speech Recognition (ASR) allows for the scalable assessment of pronunciation and fluency. **Efficiency and Consistency:** AI removes the subjectivity and fatigue associated with human grading, ensuring that every student is evaluated against the same objective parameters.

6. NAVIGATING THE CHALLENGES

6.1. Algorithmic Bias and Equity

One of the most pressing challenges in AI-mediated assessment is "bias." Most AI models are trained on specific datasets that may favor certain accents (e.g., North American or British English). Students with different regional accents or those from diverse linguistic backgrounds may receive lower scores not due to lack of proficiency, but due to the algorithm's inability to recognize their speech patterns. This raises significant ethical concerns regarding equity in high-stakes summative testing.

6.2. The "Black Box" and Transparency

Teachers often express skepticism regarding the "Black Box" nature of AI. In traditional assessment, a teacher can explain a grade by pointing to a rubric. In AI-driven testing, the logic behind a score can be opaque. For AI to be successfully integrated into the summative process, there must be a move toward "Explainable AI" (XAI), where the system provides clear justifications for its evaluations.

7. DISCUSSION: THE SYNERGY OF BOTH APPROACHES

The future of foreign language education lies in the "Blurring of the Lines" between formative and summative assessment. In a digital learning environment, every interaction a student has with a language-learning app can be seen as a formative data point. When these data points are aggregated over time, they provide a more accurate summative picture of the student's ability than a single one-hour final exam ever could. This "Continuous Assessment" model reduces student anxiety and



provides a more comprehensive view of competence. However, this shift requires a high level of "AI Literacy" among teachers. Educators must not only understand how to use these tools but also how to critically evaluate the data they produce and intervene when the AI's assessment does not align with human pedagogical judgment.

8. CONCLUSION

In conclusion, formative and summative assessments are two sides of the same coin in foreign language learning. While they have historically been treated as separate entities, the rise of multimodal AI-driven testing provides a unique opportunity to integrate them into a cohesive, learner-centered system. Formative assessment provides the necessary scaffolding and feedback for growth, while summative assessment ensures that standards of proficiency are met. To maximize the benefits of these technologies, the academic community must prioritize the development of valid, unbiased, and transparent AI models. By doing so, we can ensure that assessment not only measures learning but also actively facilitates the complex journey of acquiring a new language.

REFERENCES

1. Black, P., & Wiliam, D. (1998). Assessment and classroom learning. *Assessment in Education: Principles, Policy & Practice*, 5(1), 7-74.
2. Derakhshan, A., Lalli, G. S., & Park, Y. (2026). Unpacking EFL teachers' perceived opportunities and challenges of multimodal AI-driven language testing. *Language Testing in Asia*, 16(29). <https://doi.org/10.1186/s40468-026-00445-5>
3. Gemini Team, Google. (2023). Gemini: A family of highly capable multimodal models. arXiv:2312.11805.
4. Viktorivna, K. L., et al. (2022). Artificial intelligence in language learning: What are we afraid of. *Arab World English Journal*, 8, 262–273.
5. Wang, Y., Derakhshan, A., & Ghiasvand, F. (2025). EFL teachers' generative artificial intelligence (GenAI) literacy: A scale development and validation study. *System*, 103791.



6. Warschauer, M., & Xu, Y. (2024). Artificial intelligence for language learning: Entering a new era. *Language Learning & Technology*, 28(2), 1–4.