



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

THE ROLE OF DIGITAL TECHNOLOGIES IN IMPROVING THE EFFECTIVENESS OF MOTHER-TONGUE TEACHING IN HIGHER EDUCATION

Dustova Umida Amriddinovna

Senior Lecturer at the Tashkent Institute of Textile and Light Industry

Abstract

The article examines the pedagogical potential of digital technologies for improving the effectiveness of mother-tongue teaching in higher education. It discusses how digital platforms, electronic corpora, multimedia resources, mobile applications and artificial intelligence systems can contribute to students' linguistic, communicative and textual competence. The study argues that digitalization should not be reduced to the technical modernization of traditional lessons, because it also transforms educational content, teaching methods and patterns of interaction. Particular attention is given to the design of digital assignments, personalized learning trajectories and immediate formative feedback. Challenges related to unequal access, academic integrity, teachers' digital competence and the limited availability of high-quality national-language resources are also considered. The article proposes a pedagogically grounded model for integrating digital technologies into university mother-tongue courses.

Keywords: mother-tongue teaching, higher education, digital technologies, digital pedagogy, electronic corpus, multimedia, artificial intelligence.

Introduction

Mother-tongue education in higher education has a broader purpose than teaching grammatical rules or correcting speech errors. It develops students' ability to



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

interpret complex texts, formulate arguments, communicate professionally, evaluate information critically and use the national language appropriately in academic and social contexts. These competencies are particularly important in an information environment where communication increasingly takes place through digital platforms, electronic documents, social networks and multimodal texts.

The digital transformation of education has created new conditions for language teaching. Students now encounter written, oral, visual and interactive forms of discourse within a single communication environment. Consequently, university language courses can no longer remain limited to lectures, printed exercises and reproductive grammar tasks. UNESCO emphasizes that educational technology should serve learners' interests, complement human interaction and be introduced on the basis of pedagogical appropriateness, equity and sustainability [1, pp. 8–12].

The purpose of this article is to identify the principal functions of digital technologies in mother-tongue education and to formulate methodological conditions under which they can improve teaching effectiveness. The study employs analytical, comparative and pedagogical-modelling methods.

The Pedagogical Meaning of Digitalization

Digitalization in language education should be understood as the purposeful integration of technological resources with linguistic content, learning objectives and assessment procedures. Merely displaying a textbook page on a screen does not constitute meaningful digital pedagogy. Technology becomes educationally valuable when it helps students perform activities that would be difficult, slow or impossible in a conventional classroom.

This understanding corresponds to the Technological Pedagogical Content Knowledge framework. According to this approach, effective instruction requires



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

an intersection of subject knowledge, pedagogical knowledge and technological competence [2, pp. 1025–1029]. A mother-tongue lecturer must therefore understand not only how a platform operates, but also which linguistic problem it can solve and which learning activity it can support.

For example, a digital quiz may be useful for checking orthographic knowledge, whereas collaborative annotation is more appropriate for interpreting a literary or academic text. An electronic corpus may support lexical, morphological and stylistic analysis, while a discussion forum can develop argumentative writing. The pedagogical function of the tool must always precede its technical attractiveness.

Digital Resources for Developing Language Competence

One of the most productive digital resources in mother-tongue teaching is the national or specialized electronic corpus. Corpus-based learning enables students to observe language as it is used in authentic texts rather than as an abstract collection of rules. Learners can search for word combinations, compare grammatical forms, examine frequency, identify stylistic differences and analyse patterns across genres.

Such activities transform students from passive recipients of linguistic information into researchers. Instead of memorizing that a particular construction is “correct,” they investigate where, how frequently and in what communicative context it occurs. Technology-supported mother-tongue education can therefore combine functional and theoretical approaches to language, encouraging students to formulate hypotheses and test them using authentic material [3, pp. 125–130]. Research on technology-integrated first-language education also shows that interconnected learning environments may support investigative tasks, collaborative interaction and higher-order thinking [3, pp. 136–140].



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

Multimedia materials are equally important. Audio recordings allow students to analyse pronunciation, intonation, dialectal variation and public-speaking strategies. Video materials provide opportunities to investigate verbal and non-verbal communication together. Interactive timelines, infographics and digital stories make the historical development of the language more visible and comprehensible.

However, multimedia should not be used merely for entertainment. Each resource must be connected with an analytical task. After watching a video, students might identify register-specific vocabulary, transcribe a passage, evaluate the speaker's argument or transform oral discourse into an academic text. In this way, the digital resource becomes an object of linguistic investigation.

Improving Reading and Writing through Digital Environments

Digital technologies can strengthen reading competence by supporting active and collaborative engagement with texts. In a digital annotation environment, students can highlight key ideas, explain unfamiliar expressions, comment on stylistic devices and respond to their peers. The lecturer can observe which sections cause difficulty and provide targeted support.

Hypertext also changes reading practices. A student may move from a main text to a dictionary, reference source, historical document or related article. This structure encourages contextual interpretation, although it can also lead to fragmented attention. Therefore, students should be taught purposeful digital reading: identifying a reading objective, evaluating sources, distinguishing central information from secondary detail and recording findings systematically. Writing instruction benefits from process-oriented digital tools. Cloud-based documents make it possible to organize drafting, peer review, lecturer comments and revision within one environment. The revision history reveals how a text has



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

developed and allows teachers to assess not only the final product but also the student's writing process.

Automated spelling and grammar systems may identify surface-level mistakes, but they should not replace linguistic reasoning. Students should be required to explain why a suggested correction is appropriate, compare alternative formulations and evaluate whether the software has understood the context. Such tasks develop metalinguistic awareness rather than mechanical dependence on correction tools.

Personalization, Feedback and Student Participation

In a traditional classroom, all students commonly complete the same task at the same pace. Digital platforms make differentiated instruction more feasible. After diagnostic assessment, students can receive exercises corresponding to their individual needs. A learner who struggles with punctuation may complete additional contextual tasks, while another may focus on academic style, terminology or text structure.

Immediate feedback is another advantage. Interactive exercises can show errors as soon as they occur, allowing students to revise their decisions before misconceptions become stable. Nevertheless, automated feedback is most effective when combined with teacher explanation. Technology can indicate the location of an error; the lecturer helps the student understand its linguistic and communicative cause.

Digital environments also expand participation. Some students who rarely speak during face-to-face lessons express their ideas more confidently in online forums or written discussions. Asynchronous communication provides additional time for reflection and formulation. Computer-assisted language learning research demonstrates that technology can diversify learner participation, interaction and



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

support, but its effectiveness depends on task design and learner preparation [4, pp. 1–13].

Web 2.0 tools further enable students to become producers of educational content. They can create podcasts, digital dictionaries, explanatory videos, interactive posters and language-learning games. Action research involving prospective mother-tongue teachers found that producing digital materials can support skills related to reading, writing, listening, viewing and speaking [5, pp. 689–698].

Artificial Intelligence in Mother-Tongue Education

Artificial intelligence has introduced new opportunities for generating exercises, analysing texts, recognizing speech and providing personalized assistance. In university language courses, AI can be used to compare text versions, simplify complex passages, generate discussion questions or identify recurring language errors.

At the same time, AI-generated information may contain factual, grammatical or stylistic inaccuracies, particularly in languages with limited digital resources. For this reason, AI should be introduced as an object of critical analysis rather than an unquestionable authority. Students can compare an AI-generated text with academic language norms, identify weaknesses and rewrite it. This approach develops editorial competence and digital responsibility.

The uncontrolled generation of essays also creates risks for academic integrity. Universities should distinguish between legitimate assistance and the substitution of independent intellectual work. Students must disclose the use of AI tools, verify generated information and remain responsible for the final text. Assessment should increasingly include oral defence, reflective commentary, version history and tasks connected with local or personal linguistic data.



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

Challenges and Methodological Conditions

The educational value of technology is limited when students lack stable internet access, suitable devices or digital literacy. Unequal access can deepen rather than reduce educational inequality. Digital resources must therefore be optimized for mobile devices, moderate internet speed and, where possible, offline use.

Another problem is the shortage of reliable national-language resources. Search engines, speech-recognition systems and automated editors usually function better in globally dominant languages. Developing national corpora, terminological databases, electronic dictionaries and open educational materials should consequently be treated as an important academic and cultural task.

Lecturers also need systematic professional development. Training should move beyond technical instructions and focus on digital lesson design, online communication, formative assessment, data privacy, copyright and ethical AI use. A lecturer who understands pedagogy but lacks digital skills cannot fully use modern resources; a technologically skilled lecturer without methodological preparation may create visually attractive but educationally weak lessons.

A productive model for digital mother-tongue teaching may be organized in five stages: diagnosing students' linguistic needs; selecting a measurable learning outcome; choosing a suitable digital tool; arranging individual or collaborative language activity; and evaluating both the result and the learning process. This sequence ensures that technology remains subordinate to educational purpose.

Conclusion

Digital technologies can substantially improve mother-tongue teaching in higher education when they are integrated with clear linguistic objectives and student-centred methodology. Electronic corpora support research-based language analysis; multimedia develops listening and multimodal literacy; collaborative



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

platforms strengthen writing and peer interaction; adaptive systems facilitate personalization; and artificial intelligence provides new material for critical linguistic inquiry.

Nevertheless, technology itself does not guarantee effectiveness. Its success depends on the lecturer's methodological competence, the quality of digital content, equal access, ethical regulation and the active intellectual participation of students. The central principle should be not "more technology," but "more meaningful language activity through appropriate technology. The most promising digital university course is therefore a blended learning environment in which face-to-face dialogue, independent research, collaborative text production and digital analysis complement one another. Under these conditions, mother-tongue education becomes more flexible and interactive while continuing to preserve its cultural, intellectual and communicative mission.

References

1. UNESCO. Global Education Monitoring Report 2023: Technology in Education — A Tool on Whose Terms? Paris: United Nations Educational, Scientific and Cultural Organization, 2023. 420 p.
2. Mishra, P., Koehler, M. J. Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge // Teachers College Record. New York: Teachers College, Columbia University, 2006. Vol. 108, No. 6. P. 1017–1054.
3. Shalom, T., Nir-Sagiv, B. Integrating Technology into Mother-Tongue Education: Examples from Hebrew // L1—Educational Studies in Language and Literature. Dordrecht: International Association for the Improvement of Mother Tongue Education, 2007. Vol. 7, No. 2. P. 121–140.



World Conference on Social Sciences, Law and Public Policy

Hosted Online from Toronto, Canada

Date: 26th June 2026

Website: <https://econferencia.com>

4. Stockwell, G. Introduction // Stockwell, G. (Ed.). Computer-Assisted Language Learning: Diversity in Research and Practice. Cambridge: Cambridge University Press, 2012. P. 1–13. Total: 214 p.
5. Sügümlü, Ü. Developing Digital Content Production Skills for Mother Tongue Teaching with Web 2.0 Tools in Teacher Education: An Action Research // International Journal of Education and Literacy Studies. Footscray: Australian International Academic Centre, 2023. Vol. 11, No. 4. P. 687–702.
6. Chapelle, C. A. Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing and Research. Cambridge: Cambridge University Press, 2001. 213 p.
7. Redecker, C. European Framework for the Digital Competence of Educators: DigCompEdu. Luxembourg: Publications Office of the European Union, 2017. 95 p.
8. Selwyn, N. Education and Technology: Key Issues and Debates. 3rd ed. London: Bloomsbury Academic, 2021. 232 p.
9. Bates, A. W. Teaching in a Digital Age: Guidelines for Designing Teaching and Learning. 2nd ed. Vancouver: Tony Bates Associates Ltd., 2019. 767 p.
10. Godwin-Jones, R. Emerging Technologies: Mobile Apps for Language Learning // Language Learning & Technology. Honolulu: University of Hawai‘i National Foreign Language Resource Center, 2011. Vol. 15, No. 2. P. 2–11.