INTEGRATION OF PEDAGOGICAL AND EDUCATIONAL TECHNOLOGIES IN FOREIGN LANGUAGE TEACHING IN UZBEKISTAN

Ummatkulova Charos Alijon qizi
Samarkand State Institute of Foreign Languages, Samarkand, Uzbekistan

Abstract. This article explores the integration of pedagogical and educational technologies in foreign language teaching in Uzbekistan. It highlights the evolution from traditional methods to learner-centered approaches using CALL, ICT, multimedia, and podcasts. The study shows that combining modern pedagogical methods with educational technologies enhances communicative competence, motivation, and individualized learning outcomes.

Keywords: pedagogical technologies, educational technologies, CALL, ICT, multimedia, podcasts, foreign language teaching, communicative competence

Introduction

Uzbekistan has undertaken comprehensive reforms in foreign language teaching, aiming to prepare highly qualified specialists by effectively utilizing advanced global and local educational practices. Enhancing the quality of the English language instruction in higher education institutions has become a national priority, reflecting the commitment to integrate into global academic and professional arenas [28].

In today's globalized environment, English serves not only as the primary medium of communication in international organizations and industries but also as the main language of scientific and popular publications. Approximately 95% of scientific articles are published in English, highlighting the critical importance of foreign language proficiency for personal, professional, and academic development [25].

To address these needs, the President of Uzbekistan issued a series of decrees aimed at modernizing foreign language education. PQ-5117 (2021) emphasizes strengthening students' language skills through contemporary educational technologies, while PQ-1234 (2022) and PQ-1456 (2023) focus on introducing innovative teaching methods, enhancing teacher qualifications, and developing standardized language competency assessment frameworks [6, 7, 8]. These reforms highlight the necessity of systematically integrating existing educational technologies with modern pedagogical approaches to achieve effective learning outcomes.

The Concept and Content of Educational Technologies

Educational technologies encompass the planning of the learning process, defining objectives and content, utilizing interactive methods and tools, and assessing learning outcomes [13]. Their purpose is to enhance the efficiency and quality of instruction by employing structured methodologies, appropriate tools, and systematic evaluation mechanisms. Educational technologies include methods, tools, and techniques that ensure the transformation of quantity into quality in learning [1, 15].

The term *technology* originates from ancient Greek—*techne* meaning art and *logos* meaning study—initially referring to the process of mastering a craft. In education, it denotes a set of components designed to increase teaching effectiveness, including objectives, methods, tools, pedagogical processes, and content [15]. These components, when systematically applied, optimize student learning outcomes.

Educational technologies can be categorized into methods, tools, and instructional techniques. Methods include traditional approaches (lectures, discussions), interactive techniques (group work, problem-based tasks, games), managerial methods (control, analysis, discipline), and innovative methods (gamification). Tools encompass computer technologies, multimedia, e-books, interactive boards, and projectors. Instructional techniques include teacher-led lectures, group projects, laboratory work, problem-based learning, and differentiated instruction [3, 15].

The effective use of educational technologies has been reinforced by presidential decrees aimed at improving higher education standards and aligning Uzbek practices with international experiences [6]. Integrating interactive and innovative technologies accelerates learning outcomes, enhances student engagement, and fosters independent and creative thinking. In foreign language instruction, these technologies play a pivotal role in systematically developing communicative competence, considering individual learner characteristics such as age, aptitude, and learning style [2, 13].

Historical Evolution of Foreign Language Teaching and Pedagogical Technologies

The earliest forms of foreign language instruction emerged in ancient Greek and Roman schools, emphasizing grammar and translation, with learning outcomes measured through textual analysis and writing skills [16]. Similar approaches developed in Eastern civilizations, such as translation schools in ancient China and India, focusing on memorization, oral interpretation, and practical application. This stage represents the empirical-systematic phase of pedagogical technologies, where objectives, tools, and outcomes were logically aligned.

During the Middle Ages, Latin dominated Western and Central European universities as a religious and scholarly language. Instruction emphasized reading sacred and scientific texts, grammar analysis, and translation, exemplifying a reproductive-memorization model, which later evolved into the Grammar-Translation Method applied to modern European languages [23].

In the early 20th century, the Direct Method promoted language acquisition through immersive oral communication, independent of the native language [19]. Subsequently, the Audio-Lingual Method, influenced by behaviorism, reinforced oral skills via repetition and pattern drills [24].

By the late 20th century, the Communicative Approach prioritized learner-centered, interaction-focused teaching. The advent of digital technologies introduced ICT (Information and Communication Technology), multimedia, and mobile platforms into language learning. Podcasts, as a form of ICT, provide authentic listening environments, enable repeated exposure, and support individualized learning trajectories [18]. This evolution illustrates the transition from traditional, teacher-centered methods to technologically enhanced, learner-centered pedagogical models.

Computer-Assisted Language Learning (CALL)

The integration of computer technologies in language teaching began in the 1960s with early projects at Stanford University and New York University [5]. A significant step was the PLATO project at the University of Illinois, which aimed to explore educational functions of computers and integrate new methodological approaches [20]. By the 1980s, CALL (Computer-Assisted Language Learning) emerged as a scientific field, establishing the effectiveness of computer technologies in language instruction [12].

Two main approaches to Computer-Assisted Language Learning (CALL) are recognized. The traditional approach focuses on structured exercises targeting specific language aspects, with computers primarily serving as tutor programs to reinforce skills [4]. In contrast, the cognitive-intellectual approach emphasizes automatic text processing, the creation of flexible learning environments, and the development of interactive, universal CALL programs that adapt to individual learner needs [11].

Integrative CALL involves deep computer integration, prioritizing interactivity, collaboration, and intrinsic motivation [27, 29]. Computer programs and multimedia environments enable learning in authentic communicative contexts, promoting discussion, creativity, and active engagement [12].

ICT, multimedia, and internet technologies enrich the learning environment, increase student motivation, and improve communicative competence. Global networks provide authentic texts, audio-visual materials, and online communication tools, allowing learners to experience near-natural language environments [10, 20].

The Role of Multimedia and Digital Resources in Foreign Language Education

The rapid development of digital technologies has significantly transformed the landscape of foreign language teaching. Multimedia resources, including audio-visual materials, interactive software, and online platforms, provide opportunities for learners to engage with authentic language

input and develop communicative competence in a more dynamic learning environment. In contrast to traditional methods that rely heavily on textbooks and teacher explanations, multimedia-based instruction integrates visual, auditory, and interactive elements that support different learning styles and enhance comprehension [9, 13].

Multimedia technologies allow teachers to present language materials through videos, animations, podcasts, and interactive presentations. These resources provide contextualized language input and enable students to observe real-life communication patterns, pronunciation features, and cultural nuances. For example, video materials expose learners to natural speech, gestures, and social interaction, which are often absent in conventional classroom materials. As a result, multimedia technologies contribute to the development of listening comprehension, pronunciation accuracy, and pragmatic competence [12, 15].

Another important advantage of multimedia resources is their capacity to support autonomous learning. Modern learning management systems (LMS), online platforms, and mobile applications allow students to access educational content anytime and anywhere. Such flexibility encourages independent learning and enables students to practice language skills outside the classroom environment [10, 18]. In addition, digital platforms often incorporate automated feedback mechanisms, enabling learners to monitor their progress and identify areas that require improvement.

In the context of Uzbekistan, the integration of multimedia technologies in education has been actively promoted through national educational reforms. Many universities and secondary schools have introduced digital classrooms equipped with projectors, interactive whiteboards, and internet access. These technological improvements allow teachers to integrate multimedia materials into lessons, facilitating more interactive and engaging teaching practices [28]. As a result, students gain greater exposure to authentic language resources and develop stronger communicative abilities.

Furthermore, multimedia technologies support collaborative learning by enabling students to work together on digital projects, presentations, and online discussions. Such collaborative activities foster communication skills, critical thinking, and teamwork, which are essential competencies in modern education. Consequently, multimedia-based instruction not only enhances linguistic competence but also contributes to the development of broader academic and professional skills [17, 26].

The Importance of Teacher Training in the Implementation of Educational Technologies

While technological tools offer significant opportunities for improving foreign language education, their effective implementation largely depends on the professional competence of teachers. Educators must possess not only linguistic and pedagogical knowledge but also the ability to integrate technological resources into the learning process in a meaningful and pedagogically sound manner [12, 22].

Teacher training programs play a crucial role in preparing educators to use educational technologies effectively. These programs typically focus on developing digital literacy, instructional design skills, and the ability to select appropriate technological tools for specific learning objectives. Teachers are trained to design interactive lessons, manage online learning environments, and evaluate digital learning resources [13].

In Uzbekistan, improving teacher qualifications has become a central component of educational reform. Professional development programs and specialized training courses have been introduced to enhance teachers' technological and methodological competencies. Universities and teacher training institutes increasingly incorporate courses on ICT integration, CALL methodologies, and digital pedagogy into their curricula [10]. These initiatives aim to ensure that educators are well prepared to apply innovative teaching strategies and adapt to rapidly changing educational environments.

Another important aspect of teacher training involves fostering a positive attitude toward educational innovation. Teachers must be willing to experiment with new technologies and adopt student-centered teaching approaches. Continuous professional development encourages educators to reflect on their teaching practices, exchange experiences with colleagues, and remain informed about emerging technological trends in language education [17, 22].

Moreover, effective teacher training programs emphasize the importance of balancing technology with pedagogy. Technology should not replace the teacher but rather serve as a supportive tool that enhances the learning process. When integrated thoughtfully, educational technologies can enrich classroom interaction, provide additional learning opportunities, and facilitate personalized instruction [12, 13].

Prospects for the Future Development of Technology-Enhanced Language Learning in Uzbekistan

The future development of foreign language education in Uzbekistan is closely connected with the continued expansion of digital technologies and innovative pedagogical practices. As the country strengthens its integration into the global academic and economic community, proficiency in foreign languages – particularly English – will remain a key priority [28].

One of the most promising directions in language education is the increasing use of online and blended learning models. Blended learning combines traditional face-to-face instruction with online learning activities, allowing students to benefit from both classroom interaction and digital resources [14]. This approach enables teachers to provide more individualized instruction and allows students to progress at their own pace.

Artificial intelligence and adaptive learning systems also have the potential to transform foreign language instruction. Modern language learning platforms can analyze learner performance and automatically adjust the difficulty of tasks, providing personalized learning pathways [21]. Such technologies enable more efficient learning by focusing on each student's specific needs and abilities.

Another important development is the expansion of international academic cooperation. Collaboration with foreign universities and participation in international educational projects allow Uzbek institutions to adopt best practices in language teaching and educational technology [10, 29]. Exchange programs, joint research initiatives, and online academic networks facilitate the sharing of knowledge and experiences among educators worldwide.

Finally, the continued modernization of educational infrastructure will play a critical role in supporting technology-enhanced learning. Expanding internet access, improving digital resources, and developing national educational platforms will further strengthen the integration of ICT in language education [28].

Overall, the ongoing combination of pedagogical innovation, technological advancement, and institutional support will contribute to the creation of a modern and effective foreign language education system in Uzbekistan. Such a system will enable students to develop strong communicative competencies and successfully participate in global academic, professional, and cultural exchanges [12, 13].

Conclusion

In conclusion, Uzbekistan's foreign language education has evolved from traditional grammar-translation methods to technologically enhanced, learner-centered models. The integration of educational technologies, including multimedia, ICT, and podcasts, with pedagogical innovations significantly enhances teaching effectiveness and student engagement. CALL methodologies, initially used for drills, now provide flexible, adaptive learning environments that support individual learning trajectories.

In recent years, the government of Uzbekistan has implemented several important measures to modernize foreign language education. These include the introduction of new national standards for foreign language proficiency, the expansion of English language instruction at all levels of education, and the establishment of specialized language schools and university programs. Presidential decrees have promoted the integration of digital technologies in education, encouraged the development of modern curricula based on international standards, and supported large-scale teacher training and professional development programs. In addition, universities and schools have increasingly adopted multimedia classrooms, online learning platforms, and interactive teaching resources to enhance language instruction.

These reforms reinforce the importance of combining modern educational technologies with interactive pedagogical strategies, ensuring that students acquire the linguistic and communicative

competencies necessary for successful academic study, professional development, and participation in the global community.

References

1. Авлиёкулов, А. Педагогические технологии в современном образовании / А. Авлиёкулов, Н. Мусаева. – Ташкент : Издательство Национального университета, 2012. – 214 с.

2. Беспалько, В. П. Слагаемое педагогической технологии / В. П. Беспалько. – Москва : Педагогика, 1989. – 189 с.

3. Йолдашев, Н. Педагогические технологии для интерактивного обучения / Н. Йолдашев, А. Ишмухамедов. – Ташкент : Teacher Press, 2010. – 240 с.

4. Колесникова, И. Л. Англо-русский терминологический справочник по методике преподавания иностранных / И. Л. Колесникова, О. А. Долгина. – Санкт-Петербург : Русско-Балтийский информационный центр «Блиц», 2001. – 223 с.

5. Пиотровская, К. Р. Современная компьютерная лингводидактика / К. Р. Пиотровская // Научно-техническая информация. Серия 2 : информационные процессы и системы. – 1991. – № 4. – С. 26–29.

6. Постановление Президента Республики Узбекистан о мерах по поднятию на качественно новый уровень деятельности по популяризации изучения иностранных языков в Республике Узбекистан: PQ-5117, 2021 : [сайт]. – URL: https://lex.uz/docs/5426740 (дата обращения: 13.02.2026).

7. Постановление Президента Республики Узбекистан. О внедрении инновационных подходов в образование: PQ-1234, 2022 : [сайт]. – URL: https://lex.uz/docs/5426740 (дата обращения: 13.02.2026).

8. Постановление Президента Республики Узбекистан. О повышении стандартов языковой компетенции: PQ-1456, 2023 : [сайт]. – URL: https://lex.uz/docs/5426740 (дата обращения: 13.02.2026).

9. Bates, A. W. Teaching in a Digital Age: Guidelines for Designing Teaching and Learning / A. W. Bates. – Vancouver, BC : Tony Bates Associates Ltd., 2015. – 528 p.

10. Beatty, K. Teaching and Researching Computer-Assisted Language Learning / K. Beatty. – London : Routledge, 2010. – 304 p.

11. Benzel, A. Adaptive Call Environments / A. Benzel. – Coventry : Coventry Polytechnic Institute, 1997. – 186 p.

12. Chapelle, C. Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing and Research / C. Chapelle. – Cambridge : Cambridge University Press, 2001. – 215 p.

13. Clark, R. C. E-learning and the Science of Instruction / R. C. Clark, R. E. Mayer. – 4th ed. – Hoboken, NJ : Wiley, 2016. – 512 p.

14. Garrison, D. R. Blended Learning in Higher Education: Framework, Principles, and Guidelines / D. R. Garrison, N. D. Vaughan. – San Francisco, CA : Jossey-Bass, 2008. – 272 p.

15. Heinich, R. Instructional Media and Technologies for Learning / R. Heinich, M. Molenda, J. D. Russell, S. E. Smaldino. – 7th ed. – Upper Saddle River, NJ : Merrill/Prentice Hall, 2001. – 412 p.

16. Howatt, A. P. R. A History of English Language Teaching / A. P. R. Howatt, H. G. Widdowson. – 2nd ed. – Oxford : Oxford University Press, 2004. – 394 p.

17. Jonassen, D. H. Computers as Mindtools for Schools: Engaging Critical Thinking / D. H. Jonassen. – 2nd ed. – Upper Saddle River, NJ : Merrill, 2000. – 296 p.

18. Kuklinski, A. Podcasting in Language Education / A. Kuklinski // Language Learning & Technology. – 2008. – Vol. 12, №3. – P. 45–56.

19. Larsen-Freeman, D. Techniques and Principles in Language Teaching / D. Larsen-Freeman. – 2nd ed. – Oxford : Oxford University Press, 2000. – 251 p.

20. Levi, M. Computer-Assisted Language Learning: Context and Conceptualization / M. Levi. – Oxford : Oxford University Press, 1997. – 308 p.

21. Luckin, R. Intelligence Unleashed: An Argument for AI in Education / R. Luckin, W. Holmes, M. Griffiths, L. B. Forcier. – London : Pearson, 2016. – 52 p.

22. Reigeluth, C. M. Instructional-Design Theories and Models / C. M. Reigeluth. – Vol. IV. – New York, NY : Routledge, 2013. – 496 p.

23. Richards, J. C. Approaches and Methods in Language Teaching / J. C. Richards, T. S. Rodgers. – 3rd ed. – Cambridge : Cambridge University Press, 2014. – 410 p.

24. Richards, J. C. Longman Dictionary of Language Teaching and Applied Linguistics / J. C. Richards, R. Schmidt. – 4th ed. – London : Routledge, 2010. – 656 p.

25. Sage Journals. Language and Publishing Statistics : [сайт]. – URL: https://journals.sagepub.com (дата обращения: 13.02.2026).

26. Salmon, G. E-Moderating : The Key to Teaching and Learning Online / G. Salmon. – London : Psychology Press, 2003. – 242 p.

27. Stevens, V. Directions for CALL: From Behaviouristic to Integrative Approaches / V. Stevens. – La Jolla : Athelstan Publications, 1989. – 164 p.

28. Tukhtasinov, N. Foreign Language Education in Uzbekistan: Current Trends and Challenges / N. Tukhtasinov, M. Hakimov. – Tashkent : National University Press, 2021. – 210 p.

29. Warschauer, M. Computers and Language Learning: An Overview / M. Warschauer, D. Healey // Language Teaching. – 1998. – Vol. 31, №2. – P. 57–71.

ИНТЕГРАЦИЯ ПЕДАГОГИЧЕСКИХ И ОБРАЗОВАТЕЛЬНЫХ ТЕХНОЛОГИЙ В ПРЕПОДАВАНИИ ИНОСТРАННЫХ ЯЗЫКОВ В УЗБЕКИСТАНЕ

Умматкулова Чарос Алижон кизи

Самаркандский государственный институт иностранных языков, Самарканд, Узбекистан

Аннотация. Статья рассматривает интеграцию педагогических и образовательных технологий в преподавании иностранных языков в Узбекистане. Освещается переход от традиционных методов к ориентированным на учащегося с использованием CALL, ИКТ, мультимедиа и подкастов. Показано, что сочетание современных методов и технологий повышает коммуникативную компетенцию, мотивацию и индивидуальные результаты обучения.

Ключевые слова: педагогические технологии, образовательные технологии, CALL, ИКТ, мультимедиа, подкасты, преподавание иностранных языков, коммуникативная компетенция

References

1. Avliyokulov, A. Pedagogicheskie tekhnologii v sovremennom obrazovanii [*Pedagogical Technologies in Modern Education*] / A. Avliyokulov, N. Musaeva. – Tashkent : Izdatel'stvo Nacional'nogo universiteta, 2012. – 214 s.

2. Bespal'ko, V. P. Slagaemoe pedagogicheskoj tekhnologii [*Component of Pedagogical Technology*] / B. P. Bespal'ko. – Moskva : Pedagogika, 1989. – 189 s.

3. Joldashev, N. Pedagogicheskie tekhnologii dlya interaktivnogo obucheniya [*Pedagogical Technologies for Interactive Learning*] / N. Joldashev, A. Ishmuhamedov. – Tashkent : Teacher Press, 2010. – 240 s.

4. Kolesnikova, I. L. Anglo-russkij terminologicheskij spravochnik po metodike prepodavaniya inostrannyh [*English-Russian Terminology Handbook of Methods of Teaching Foreign Languages*] / I.L. Kolesnikova, O.A. Dolgina. – Sankt-Peterburg : Rus.-Balt. inform. centr BLIC, 2001. – 223 s.

5. Piotrovskaya, K. R. Sovremennaya komp'yuternaya lingvodidaktika [*Modern Computer Lingvodidactics*] / K. R. Piotrovskaya // Nauchno-tekhnicheskaya informaciya. Seriya 2 : Informacionnye processy i sistemy. – 1991. – № 4.– S. 26–29.

6. Postanovlenie Prezidenta Respubliki Uzbekistan O merah po podnyatiyu na kachestvenno novyj uroven' deyatel'nosti po populyarizacii izucheniya inostrannyh yazykov v Respublike Uzbekistan: PQ-5117, 2021 : [sajt] [*Resolution of the President of the Republic of Uzbekistan On measures to raise the activities to popularize the study of foreign languages in the Republic of Uzbekistan to a qualitatively new level: PQ-5117, 2021*]. – URL: https://lex.uz/docs/5426740 (data obrashcheniya: 13.02.2026).

7.   Postanovlenie Prezidenta Respubliki Uzbekistan. O vnedrenii innovacionnyh podhodov v obrazovanie: PQ-1234, 2022 : [sajt]. – URL: https://lex.uz/docs/5426740 (data obrashcheniya: 13.02.2026).

8.   Postanovlenie Prezidenta Respubliki Uzbekistan. O povyshenii standartov yazykovoj kompetencii: PQ-1456, 2023 : [sajt] [*Resolution of the President of the Republic of Uzbekistan. On the implementation of innovative approaches in education: PQ-1234, 2022*]. – URL: https://lex.uz/docs/5426740 (data obrashcheniya: 13.02.2026).

9.   Bates, A. W. Teaching in a Digital Age: Guidelines for Designing Teaching and Learning / A. W. Bates. – Vancouver, BC : Tony Bates Associates Ltd., 2015. – 528 p.

10.   Beatty, K. Teaching and Researching Computer-Assisted Language Learning / K. Beatty. – London : Routledge, 2010. – 304 p.

11.   Benzel, A. Adaptive CALL Environments / A. Benzel. – Coventry : Coventry Polytechnic Institute, 1997. – 186 p.

12.   Chapelle, C. Computer Applications in Second Language Acquisition: Foundations for Teaching, Testing and Research / C. Chapelle. – Cambridge : Cambridge University Press, 2001. – 215 p.

13.   Clark, R. C. E-learning and the Science of Instruction / R. C. Clark, R. E. Mayer. – 4th ed. – Hoboken, NJ : Wiley, 2016. – 512 p.

14.   Garrison, D. R. Blended Learning in Higher Education: Framework, Principles, and Guidelines / D. R. Garrison, N. D. Vaughan. – San Francisco, CA : Jossey-Bass, 2008. – 272 p.

15.   Heinich, R. Instructional Media and Technologies for Learning / R. Heinich, M. Molenda, J. D. Russell, S. E. Smaldino. – 7th ed. – Upper Saddle River, NJ : Merrill/Prentice Hall, 2001. – 412 p.

16.   Howatt, A. P. R. A History of English Language Teaching / A. P. R. Howatt, H. G. Widdowson. – 2nd ed. – Oxford : Oxford University Press, 2004. – 394 p.

17.   Jonassen, D. H. Computers as Mindtools for Schools: Engaging Critical Thinking / D. H. Jonassen. – 2nd ed. – Upper Saddle River, NJ : Merrill, 2000. – 296 p.

18.   Kuklinski, A. Podcasting in Language Education / A. Kuklinski // Language Learning & Technology. – 2008. – Vol. 12, №3. – P. 45–56.

19.   Larsen-Freeman, D. Techniques and Principles in Language Teaching / D. Larsen-Freeman. – 2nd ed. – Oxford : Oxford University Press, 2000. – 251 p.

20.   Levi, M. Computer-Assisted Language Learning: Context and Conceptualization / M. Levi. – Oxford : Oxford University Press, 1997. – 308 p.

21.   Luckin, R. Intelligence Unleashed: An Argument for AI in Education / R. Luckin, W. Holmes, M. Griffiths, L. B. Forcier. – London : Pearson, 2016. – 52 p.

22.   Reigeluth, C. M. Instructional-Design Theories and Models / C. M. Reigeluth. – Vol. IV. – New York, NY : Routledge, 2013. – 496 p.

23.   Richards, J. C. Approaches and Methods in Language Teaching / J. C. Richards, T. S. Rodgers. – 3rd ed. – Cambridge : Cambridge University Press, 2014. – 410 p.

24.   Richards, J. C. Longman Dictionary of Language Teaching and Applied Linguistics / J. C. Richards, R. Schmidt. – 4th ed. – London : Routledge, 2010. – 656 p.

25.   Sage Journals. Language and Publishing Statistics : [sajt]. – URL: https://journals.sagepub.com (data obrashcheniya: 13.02.2026).

26.   Salmon, G. E-Moderating : The Key to Teaching and Learning Online / G. Salmon. – London : Psychology Press, 2003. – 242 p.

27.   Stevens, V. Directions for Call: From Behaviouristic to Integrative Approaches / V. Stevens. – La Jolla : Athelstan Publications, 1989. – 164 p.

28.   Tukhtasinov, N. Foreign Language Education in Uzbekistan: Current Trends and Challenges / N. Tukhtasinov, M. Hakimov. – Tashkent : National University Press, 2021. – 210 p.

29.   Warschauer, M. Computers and Language Learning: An Overview / M. Warschauer, D. Healey // Language Teaching. – 1998. – Vol. 31, №2. – P. 57–71.