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Methods and Approaches to Electronic Teaching of the Abkhaz Language (Level A1)[1]

ABSTRACT

In today's globalized world, the development of online language learning courses is becoming increasingly significant. This article presents an analysis of an e-learning course in the Abkhaz language (A1 level), which aims to design a contemporary model of distance education tailored to this language. This article describes, for the first time, the methodology for developing an electronic course in the Abkhaz language aligned with the A1 CEFR level and adapted for Georgian-speaking students. The course establishes a foundation for digital instruction in Abkhaz and, at the same time, illustrates the broader prospects for the digitalization of minority languages within educational contexts. The importance of such an online initiative is further underscored by the limited number of qualified Abkhaz language teachers available beyond the Enguri River, a factor that continues to hinder effective language acquisition. In designing the Abkhaz language course, particular attention was paid to the linguistic complexity of the language – including its phonemic structure and grammatical categories – while ensuring that the learning materials are presented in a clear and gradual manner. The course incorporates a rich multimedia component, featuring audio materials recorded by native speakers and diverse visual resources that facilitate language acquisition. A variety of interactive exercises enhance cognitive engagement and promote more effective learning outcomes. Given the electronic format of the course and the limited digital representation of the Abkhaz language, it remains challenging to fully integrate the speaking component into the program. Further development in this area is planned for the next stage of the project. Within the course framework, learners are able to track and save their progress, while also having the option to reset their results should they wish to restart the course from the beginning.

Keywords: Abkhaz language, e-learning, distance education, minority languages, digital instruction, language acquisition

Introduction

Abkhaz is one of the unique languages whose study carries significant cultural and linguistic value.

According to the Constitution of Georgia, Abkhaz holds the status of a state language in the

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Autonomous Republic of Abkhazia, alongside Georgian. Accordingly, Georgia bears the responsibility to ensure the functioning, development, protection, and promotion of the Abkhaz language – at least within the territories under its control. To achieve this, it is essential to implement programs for teaching and popularizing the Abkhaz language, which, in the modern era, can be most effectively and conveniently accomplished through online courses.

The Abkhaz language has been designated by UNESCO as *potentially endangered* (UNESCO, 2010). In the modern world, the development of electronic resources is crucial not only for endangered languages but also for those that are well protected, as the integration of technology into language learning and teaching – particularly through online courses – is becoming increasingly relevant.

Although there exist Abkhaz phrasebooks, dictionaries, certain electronic resources, and several textbooks, there remains a strong need for the creation of new, accessible, user-friendly, and effective electronic learning courses in the Abkhaz language – especially given the shortage of qualified Abkhaz language instructors.

Against the backdrop of globalization and the advancement of digital technologies, the preservation of languages and the promotion of language learning require new approaches. The development of an electronic learning course for the Abkhaz language represents a significant step both in promoting the language and in aligning its teaching with modern educational standards.

For this reason, the NGO *Enagram* and *The Institute of Abkhazia* of Ivane Javakhishvili Tbilisi State University are implementing a one-year project titled **"Electronic Abkhaz Language Course – Level A1"**, funded by the Shota Rustaveli National Science Foundation of Georgia. This initiative aligns with Georgia's ten-year State Language Strategy, one of the key objectives of which is to support the functioning and promotion of the Abkhaz language (USLP(S), 2021, p. 18).

The aim of the present article is to analyze the methods and approaches applied in the development of the **A1-level electronic course for the Abkhaz language**. The paper discusses the structure of the course, the technological tools employed, and the teaching principles that ensure its effectiveness and flexibility. The research findings highlight innovative approaches that may serve as a foundation for the further development of an electronic platform for teaching the Abkhaz language.

Literature Review

In the modern era, electronic learning represents one of the most flexible, accessible, and effective means of language acquisition, as it removes geographical barriers. However, this form of instruction is still not available or widely implemented for many languages, particularly for those that are low-resourced. This scarcity is especially striking given the growing body of evidence demonstrating the

strong pedagogical potential of digital learning environments. Recent empirical studies further reinforce this point.

Grgurović, Chapelle, and Shelley's research suggests that computer-assisted second or foreign language teaching proved to be at least as effective as traditional, non-technology-based instruction, and in studies with strong methodological design, learners in CALL environments actually surpassed those in conventional classrooms (Grgurović, Chapelle & Shelley 2013, p. 165). Building on this evidence of CALL's effectiveness, Stockwell underscores that, at a minimum, any theory of CALL must account for two fundamental dimensions: the process of language learning itself and the nature of the learner's interaction with the technology through which that learning occurs (Stockwell, 2012, p. 6).

The use of technology can improve learners' motivation and interest. Technology provides language learners with target language input, output, and feedback. Findings indicate that researchers placed greater emphasis on language output – specifically writing and speaking skills. One explanation for this trend is that traditional classrooms prioritize input much more heavily than output, typically focusing on listening and reading through conventional tools such as textbooks and notebooks. Consequently, scholars sought to strengthen language output through technology, as it can effectively support learners in producing written and spoken language. Another explanation is that writing and speaking tasks are generally easier to implement within technology-enhanced environments (Shadiev & Yang, 2020, p. 14). It is important to note that the course under discussion is designed to support the development of all four language skills to the greatest extent possible.

Alongside the impact of technology on specific language skills, researchers have also examined how digital environments reshape the learner's role. Learner autonomy in digital settings is underscored by Reinders and White, who argue that as everyday technologies increasingly serve as natural environments for language learning, autonomy is both expected and developed in ways that researchers are only beginning to fully understand (Reinders & White, 2016, p. 152). This finding validates our decision to implement flexible pacing and comprehensive progress monitoring in the Abkhaz e-learning platform. These theoretical insights become particularly relevant when examining the current state of Abkhaz-language digital resources.

When considering the existing landscape of Abkhaz-language digital resources, these methodological insights highlight both the need and the relevance of developing more robust e-learning solutions. At present, there exists one online course in the Abkhaz language, which is based on the Russian-language textbook *Self-Study Course of the Abkhaz Language, Part 1* by Jonua and Kiut (Jonua & Kiut, 2003). The materials from this book have been translated into English and Turkish,

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making the course available in all three languages. Both the textbook and the online course consist of 22 lessons; However, the online version currently offers only 18 lessons in Russian, English, and Turkish, with the rest still undergoing development (Learn Abkhazian).

The aforementioned textbook primarily contains grammatical rules, verb conjugations, and exercises, along with occasional phrases. The conjugation forms and phrases are accompanied by audio recordings.

In addition to the aforementioned course, there are several paid learning, phrasebook, and translation applications available for Russian-speaking users on iOS and Android platforms (Rodnoy yazyk; Stepik).

For Georgian-speaking users, an electronic self-study program titled *"Let's Learn Abkhaz"* was developed at the initiative of the Government of the Autonomous Republic of Abkhazia (Osia, 2018).

There are also printed textbooks (Shinkuba, 2003; Ajiba et al, 2011; Avidzba & Kokoskeria, 2017; Kvarchelia, 2014; Gvantseladze et al. 2018; Machavariani & Margania-Amichba, 2018). However, none of the aforementioned books, courses, or applications are structured according to proficiency levels, and therefore they tend to be challenging for learners.

The course under discussion constitutes an attempt to address this very gap, whereas the present article seeks to delineate the methodological and structural framework of an electronic course designed for the teaching and learning of the Abkhaz language. Such an initiative aligns with a substantial body of research highlighting the pedagogical value of technology-enhanced language instruction.

Methodology

The adoption of digital methodologies in language education represents a fundamental paradigm shift from traditional classroom-based instruction, offering unprecedented opportunities for personalized, accessible, and effective language acquisition. In this respect, the Abkhaz language course incorporates a set of evidence-based digital learning principles tailored specifically to the needs of Georgian-speaking learners and to the linguistic complexity of Abkhaz.

A central component of the course design is the multimodal learning enhancement approach, which simultaneously engages visual and auditory channels. Native-speaker audio recordings offer authentic pronunciation modeling; visual associations support vocabulary retention, and interactive exercises integrate immediate feedback. This multisensory approach is particularly beneficial for mastering the phonemic intricacies of Abkhaz, including labialized and palatalized consonants absent in Georgian.

Complementing multimodality, the digital format enables adaptive pacing and personalization

unavailable in traditional classroom settings. Learners may progress at their own speed, revisit complex sections without social pressure, and access the platform at any time and from any location. Automated analytics ensure continuous monitoring of individual progress, a feature especially valuable for adult learners balancing multiple responsibilities and for students in regions where qualified Abkhaz instructors are scarce.

Immediate feedback mechanisms further strengthen the learning process. The platform validates responses in real time, reinforcing correct patterns, preventing the fossilization of errors that often arises from delayed correction, and sustaining learner motivation. In addition, the system integrates spaced repetition algorithms that optimize long-term retention by scheduling reviews according to each learner's performance profile – an evidence-based method known to increase memory consolidation.

These methodological choices also contribute to broader language preservation efforts. By removing reliance on physically present instructors, the platform democratizes access to Abkhaz language education for learners in Georgia, diaspora communities, and even residents of the occupied territories. The scalability of digital infrastructure allows thousands of learners to receive standardized, high-quality instruction without proportional increases in teaching resources. Moreover, the platform's data-driven architecture supports continuous course improvement through the analysis of aggregated learner performance.

Given that the electronic course is still under development, the present research adopts a qualitative approach. The ongoing nature of the project currently precludes the collection of quantitative data. Since no established CEFR-aligned proficiency description exists for Abkhaz, the A1-level content and thematic scope were defined according to international standards specifying the expected linguistic competences at this level.

As the course under analysis is designed for Georgian-speaking learners, its development takes into account the linguistic specificities of both Georgian and Abkhaz. The course endeavors to make the study of Abkhaz more accessible for Georgian speakers by facilitating the comprehension of its complex phonemic system (including labialized and palatalized phonemes absent in Georgian) as well as its intricate grammatical structure (such as the person–class agreement system and interrogative forms). Furthermore, the course constitutes a synthesis of textual, visual, and audio materials and encompasses all four key components of language acquisition – listening, writing, reading, and, to the extent possible, speaking. The content of the course has been positively assessed by native Abkhaz experts.

In preparing the theoretical component of the course in Abkhaz, the following sources were used: T. Gvantseladze's *For Learners of the Abkhaz and Georgian Languages*; the two-volume *Grammar*

of the Abkhaz Language by a collective of authors (Aristava et al., 2014; Aristava, 2021); Sh. Aristava's *Grammar of the Abkhaz Literary Language* (Aristava, 1996); and the *Rules of Abkhaz Orthography* (RAO, 1997). For the selection and verification of lexical material, the following dictionaries were consulted: the two-volume *Dictionary of the Abkhaz Language* compiled by a collective of authors (Shakryl & Konjaria, 1986; Shakryl, Konjaria & Chkadua, 1987); V. Kaslandzia's two-volume *Abkhaz-Russian Dictionary* (Kaslandzia, 2005; Kaslandzia, 2005a); T. Gvantseladze's *Abkhaz-Georgian Dictionary* (Gvantseladze, 2000; Gvantseladze, 2012); the three-volume *Russian-Abkhaz Dictionary* by V. Kaslandzia and B. Jonua (Kaslandzia & Jonua, 2016; Kaslandzia & Jonua, 2016a; Kaslandzia & Jonua, 2016b); and N. Machavariani's *Abkhaz-Georgian Dictionary with an Index and a Grammatical Overview* (Machavariani, 2018).

The development of instructional materials was guided by principles of pedagogical effectiveness, learner engagement, motivation, and platform flexibility. To support these goals, the technical implementation of the platform relies on modern web technologies that ensure stability, scalability, and a seamless user experience across devices.

The visual layer of the platform is developed using React, one of the most widely adopted technologies for creating modern web applications. This enables rapid transitions between lessons and exercises without the need for page reloads, a feature particularly important for maintaining a continuous learning experience.

The interface design is built with Tailwind CSS, which ensures that the platform appears equally well-structured on both large screens and mobile devices. To provide intuitive navigation for users, specialized icons and visual elements are employed throughout the interface.

On the server side, the platform employs Microsoft's ASP.NET Core framework to ensure security and reliability. User authentication and progress tracking are implemented through protected mechanisms, safeguarding personal data and preventing unauthorized access.

The database is built on Microsoft SQL Server and stores both the course content (lessons, exercises, audio materials) and user information along with their learning progress. The system allows each user to save their achievements and, when needed, continue learning from the point at which they previously stopped.

Results

As noted above, the CEFR A1 level descriptors served as the methodological framework for defining the expected learner outcomes by the end of the course. Consequently, the course content is functionally aligned with the CEFR A1 level, enabling learners to understand and use familiar

everyday expressions and very simple phrases, while simultaneously supporting the acquisition of the fundamental structural features of the Abkhaz language.

The course comprises thirty lessons, each of which includes theoretical content, thematic vocabulary, and, where appropriate, texts and dialogues. Every lesson is supplemented with exercises developed in accordance with the respective topics. Both individual lexical units and entire dialogues or texts are audio-supported, while the majority of vocabulary items are accompanied by relevant visual materials.

In the introductory section of the course, learners receive concise information on the Abkhaz language – its area of distribution, dialectal variation, and present sociolinguistic status. Thereafter, learners are gradually acquainted with the complex phonetic inventory of Abkhaz and, through clearly articulated theoretical explanations, progressively begin to construct simple phrases.

The course encompasses the following thematic areas: greetings; personal belongings; occupations and professions; countries, cities, languages, and nationalities; family; numerals; the names of days, months, and seasons; telling time; colors; descriptions of habits and daily routines; weather; food and beverages; fruits and vegetables; parts of the body; shopping; kinship terminology; the home and its rooms; clothing; holidays; health and illness; as well as hobbies and personal interests.

The course incorporates the following theoretical components: phonetic composition; grammatical categories; personal, demonstrative, and possessive pronouns; cardinal and ordinal numerals; interrogative words and question constructions; the formation of plural nouns; basic adjectives and their comparative and superlative degrees; derivational patterns; the instrumentalis; static and dynamic verb types; the present, past, and future tenses; imperative and continuous forms; negative constructions; conjunctions; prepositions; and adverbs of place and time.

Since stress in Abkhaz is phonologically contrastive and mobile rather than fixed, the course indicates stress on the appropriate syllables in both the vocabulary and all Abkhaz-language texts, thus easing the learner's acquisition of the language.

The course features a range of exercises aligned with the theoretical content, including listening comprehension (repeating or typing auditory material), word matching, linking words to visual materials, identifying objects or actions depicted in images, categorizing words (e.g., animate vs. inanimate nouns), constructing simple phrases, translation exercises, and reading comprehension activities (text interpretation, true/false questions, or written responses to prompts). Additionally, the course comprises three quizzes.

Within the framework of the course, a website featuring an Abkhaz virtual keyboard was developed. At present, a partial segment of the course content has been uploaded to this platform,

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which functions in a test mode. During exercise completion, the system indicates correct responses in green, incorrect responses in red, and simultaneously provides the learner with the correct answer.

Discussion

The thematic coverage reflected in the results demonstrates that the A1-level electronic course for Abkhaz effectively aligns with the international standards for this proficiency level.

The course is designed to support the development of learners' lexical and grammatical competence. The content is presented in a clear, step-by-step manner to registered participants, who are also afforded the flexibility to proceed at their own pace.

Owing to the complex phonemic system of Abkhaz, the first four lessons focus on phoneme familiarization: the first lesson presents phonemes common with Georgian, along with ɔ and **f**, and each of the following lessons is devoted to labialized, velarized, and palatalized consonants. In all four lessons, words containing the target phonemes are provided with corresponding audio support.

As Georgian lacks grammatical classes, the topic is initially presented in a simplified form, with only third-person pronouns and the third-person forms of the verb *to be* explained, while all other forms are introduced in later stages. In the following lessons, interrogative words pertaining to human and object classes, along with numerals, are gradually incorporated.

Owing to its person–class agreement system, the Abkhaz verb is considered one of the most complex in the world's languages. Within the course, the complete paradigms of all verbs are provided, mainly in the present tense, with selected verbs also illustrated in the aorist, continuous, and future forms.

The formation of interrogative constructions is notably complex; accordingly, interrogative forms for human and non-human classes are introduced gradually across separate lessons.

After successfully completing the course, learners will be able to communicate on topics including greetings, self-introduction, characterizing a person, conveying possession, describing places, giving directions, outlining daily routines, telling time, expressing preferences, and describing basic actions.

The course offers a diverse set of exercises aligned with the thematic content, incorporating straightforward and modern feedback, including quizzes. Upon correctly completing an exercise, learners receive positive reinforcement in Abkhaz via a "like" button accompanied by appropriate audio feedback.

The website developed as part of this course will be freely accessible to all Georgian-speaking users. It is suitable for secondary school students, university students, and individuals of diverse ages and social backgrounds with an interest in the language. The course will be especially valuable for

students learning Abkhaz in Georgia's public schools and universities, as it offers a means to consolidate the knowledge acquired in formal education. Through this course, learners gain access to a new, technologically advanced resource that is both practical and engaging for the younger generation.

Thus, the platform is designed with flexibility and ease of navigation in mind. Its structure facilitates uninterrupted learning and the systematic organization of content, which is particularly crucial for foreign language acquisition at the beginner level.

The platform's architecture is based on a three-tier structure – visual layer, business logic, and database – each operating independently. This design ensures system flexibility and supports future development and scalability.

Special emphasis has been placed on the platform's responsiveness: the course functions equally well across various browsers and devices. The system is also optimized for operation under low-bandwidth internet conditions, which is particularly important for users residing in remote regions.

Such technological solutions ensure the platform's accessibility for a broad audience and provide a reliable foundation for the continued development of electronic learning in the Abkhaz language.

Conclusion

This study demonstrates that the A1-level electronic course for Abkhaz successfully combines contemporary educational technologies with fundamental principles of language teaching. The course analysis further indicates that the distance learning format provides considerable potential for the study, maintenance, and promotion of low-resource languages.

Access to an electronic resource strengthens a language's cultural sustainability and supports the maintenance of global linguistic diversity.

Beyond providing a highly convenient and effective method of language learning in the technological era, unrestricted by time or location, the course will be freely accessible to all interested learners. Participants will be able to study Abkhaz at the A1 (beginner) level at no cost, using either a computer or a mobile device, at times and places most suitable for them. This approach to teaching Abkhaz is both innovative and unprecedented within the field of Abkhaz language education.

Beyond assisting learners of the language, the course aims to raise awareness of the Abkhaz language, people, and culture, provide Georgians with a deeper understanding of the Abkhaz and their language, promote positive attitudes toward them, and contribute, to some degree, to elevating the prestige of the Abkhaz language.

The electronic resource under discussion will be available to learners of Abkhaz residing in the

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occupied territory of Abkhazia, as well as to members of the Abkhaz diaspora abroad seeking to preserve their native language, and to Georgians living in the diaspora who wish to acquire the native language of the related Abkhaz community.

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Appendices

Abkhaz Language Course Website (Test Mode):