Interactive Online Teaching of Phonetic Skills: Introductory Phonetic Course

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Abstract

This paper aims to develop a methodology for forming communication skills (specifically phonetic skills) through a virtual learning environment involving online learning platforms, online tools, and mobile applications, which determines the relevance and timeliness of the study. The authors present their experience of effective use of modern online resources and mobile applications to develop phonetic and communication skills in first-year students studying German as the first and second foreign language at the Department of German Philology at Odesa I.I. Mechnikov National University, Ukraine. According to the survey, modern digital tools and applications help students reveal interest and, more importantly, increase motivation in learning a foreign language. They enable students to keep in touch with their teachers, who provide them with feedback and support, creating the effect of social presence which is so vital in a distance learning environment. The significance of the research is to establish the background for the formation of students' self-development and self-education skills, encourage the students to take responsibility for their learning process, and motivate their learning activities with the most effective tools and technologies that do not only complement traditional teaching methods, but also contribute to the learning process improvement and enhancement. Consequently, the research findings can apply to the development of communicative competence, which is the main goal in teaching any foreign language.

Keywords: communication skills, interactivity, multimodality, multimedia platforms and mobile applications, phonetic skills, polymodality, virtual learning environment

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Introduction

Foreign language training in particular and the modern educational process as a whole are to be updated significantly. The current scientific and technological level implies dramatic changes in the means and technologies used throughout the educational process and radically new approaches to learning a foreign language for professional purposes, based on the extensive adoption of information and communication technologies. The technologies enable you to increase the scope of the educational process in terms of its practical orientation; they also stimulate students' motivation during their foreign language training and develop their intellectual and creative abilities, their skills to acquire new knowledge on their own.

In the modern world, an increase in the overall education quality forces us to search for new approaches to teaching a foreign language. It is a prerequisite for successful modern education to form a many-sided personality capable of living and working in a constantly changing world. Therefore, the language teaching methodologies focus on the active methods and forms of teaching, providing a high level of students' learning activity. Nowadays, the main methodological innovations are associated with interactive methods for teaching a foreign language. Western methodologists have offered to shift from the communicative to the interactive approach, and now this trend has received recognition worldwide. Today, there is an urgent need for information or multimedia technologies in online learning of a foreign language since they enable not only to facilitate the process itself but also to reach a wider audience of students. Multimedia technologies are one of the most promising areas to computerize and digitalize the modern learning process. The use of multimedia as a combination of foreign language teaching tools is becoming ever more relevant both in the training of language experts and in non-linguistic universities.

The objectives of modern language education should be consistent with the social changes and especially technological advances that are taking place in our time. The Common European Framework of Reference for Languages, which theoretical platform builds upon the competency-based approach to learning, clearly differentiates between general competencies (students' expertise, knowledge, and skills) and purely communicative language competencies. Thus, while teaching languages, the educators should emphasize students' communicative and general competencies developed throughout learning a foreign language. In our opinion, the detailed description of the competencies required for both a foreign language learner and a teacher should feature a multimedia language competence determining the degree of use of the language virtual space of the target language country. By multimedia language competence, the researchers mean easy availability of different ways and means of presenting, perceiving, and transmitting information through modern multimedia technologies to solve communicative problems in a foreign language. Today, a foreign language teacher should effectively integrate the following into the teaching process: offline multimedia (digital textbooks, electronic dictionaries, translators), online multimedia (Web resources, distance learning, multimedia platforms for teaching a foreign language).

At the present stage, there is already a comprehensive research base highlighting the critical aspects of the multimedia impact on the quality and effectiveness of the online learning process. It analyses the mechanisms of multimedia information transmission and its perception by the students. It considers the specifics of foreign language vocabulary, the peculiarities of mastering

new information while learning and achieving the correct interaction in teaching phonetic skills. It is appropriate to highlight the most significant features of the multimedia technologies influence on the process of learning a foreign language in the context of the cognitive aspect: boosting the development of logical thinking and imagination, improving the mechanisms of individual and personal perception; the synergistic effect of the combination of the presented information visualization and auditory impact (syncretic training); mastering communication skills, natural immersion in the foreign language communication which is especially topical as students mainly stay in a non-linguistic environment; intensive formation of linguistic abilities, speech, and language action automation (Bryzhina, 2012); encouraging students to realize their creative potential, effective developing and mastering of individual cognitive and creative abilities through a variety of ways of information exchange within the context of multimedia tools and technologies use.

Given the arguments mentioned above, the researchers may, therefore, conclude that multimedia technologies significantly enhance online learning and bring the intellectual process of acquiring knowledge of a foreign language to a qualitatively higher level. In addition, online learning is sure to feature many benefits over traditional education. First of all, it includes open access (i.e., students can study from almost anywhere), and another sustainable advantage is the flexibility of the learning process itself. In the realm of online learning, it is not just students' motivation that plays a crucial role, but also the relevance and attractiveness of the offered educational materials and the professional and business competence of the tutor. At the initial stage, the students' interest is usually very high. Therefore, the teachers should maintain it by extensive use of the latest textbooks, relevant additional materials, and modern methods and training platforms that boost interaction between educational process stakeholders. In the age of online education growing momentum, achieving interaction in the formation of phonetic skills has become topical.

The study aims to develop a methodology to form communication skills (interaction) while nurturing phonetic skills through a virtual learning environment (VLE) involving online learning platforms, online tools, and mobile applications, which determines the relevance and timeliness of the study.

Research questions: to analyze current multimedia platforms and mobile applications for creating Virtual Learning Environment (VLE) in the context of teaching phonetic skills of the foreign language; to determine the principles of forming phonetic skills based on VLE; to design a system of exercises based on VLE to develop phonetic and communication skills in a foreign language; to determine the indicators of the level of phonetic and communication skills formation within VLE.

Literature Review

Computer and Internet technologies used in the learning process have significantly altered foreign language learning. They speed up and facilitate the work with authentic sources enabling the teacher to foster students' independent work, promote their intellectual and creative potential, encourage students to learn a foreign language, and implement a differentiated approach to language acquisition. For example, according to Brent (2012), the inherent properties of new

technologies, such as their interactivity, polymodality, multimediality, and content visualization, play an essential role in learning since VLE educational content promotes students' cognitive styles of thinking, their creativity, and mental activity and has a positive impact on their psychological and emotional state (Brent, 2012).

The theoretical basis of the research was: 1) theoretical foundations of the educational process organization and computer technology use in the foreign language educational and cognitive process (Basev, 2012; Beliaeva, 2016; Boldyreva, 2013; Brent, 2012; Hara & Kling, 2000; Jack & Higgins, 2019; Kennedy, 2010; Moyseeva, 2002; Polat, Bukharkyna, Moyseeva, & Petrov; Richardson & Swan, 2003; Richter, 2017; Vajndorf-Sysoeva, 2010; Zolotukhin, 2013); 2) studies in the field of theoretical and practical phonetics, phonology, and methods of teaching the phonetic aspect of a foreign language (Bondarko, 2004; Bukharov & Petrenko, 2018; Potapova, 2002; Richter, 2017; Hirschfeld, Reinke, & Reinke, 2014; Drahmen, 2019). Since new computer technology has advanced and entered into everyday and professional life, there has been a gradual increase in their methodological capabilities in foreign language teaching. Thus, in the early 2000s, the scientific research on the teaching foreign languages methodology focused on the models of student-computer interaction (Polat, Bukharkyna, Moyseeva, & Petrov, 2001; Glen, 1999; Hara & Kling, 2000), and computer technology only as additional, accompanying technical means of learning (Kennedy & Trofimovich, 2008; Richter, 2017; Vajndorf-Sysoeva, 2010; Zolotukhin, 2013). However, at the present stage of technological progress and foreign language teaching methodology, computer technology is perceived as an alternative or counterpart of learning tools. Jack & Higgins (2019), Richardson & Swan (2003), Richter (2017), Brent (2012), Sysoev & Yevstigneev (2008), and others explore this approach to modern information and communication technology methodological potential in their works.

In their works, Vajndorf-Sysoeva (2010), Zolotukhin (2013), Jack & Higgins (2019), Richardson & Swan (2003), Boldyreva (2013), Richter (2017) have concluded that multimedia software, learning platforms, and mobile applications dramatically enrich the students' language and cultural practices. They enable the principle of feasibility and accessibility to be fully implemented and allow a particular student to design an individual educational route; they may be the foundation for speech skills development and language skills formation. The main advantage of VLE over traditional teaching methods is the opportunity of direct audio-visual interaction, which enable to work on various types of speech activity, create communicative situations, automate language and speech skills and competencies, foster independent work, and increase cognitive activity, motivation, and students' knowledge quality. In her research, Boldyreva (2013) has emphasized that computer communications technology enables the implementation of methods boosting students' creative activity in a new way. Consequently, in the educational process, modern information and communications technology are the most active forms of the learning process individualization (Boldyreva, 2013). Many scholars like Brent (2012), Richter (2017), Sysoev & Yevstigneev (2008), etc. believe that although in real life, all aspects of language and language activities are interrelated, in some cases, it is advisable to separate them for educational purposes. Multimedia resources cannot meet all of the students' needs due to their certain limitations in the program's scope and, or the operations speed within a particular aspect of language or language activity. Therefore, it is appropriate and reasonable to use specialized

multimedia software that develops specific language skills depending on the learning objective instead of universal multimedia tools which aim at teaching all language aspects and activities.

Methods

To achieve the aim and solve the problems, the researchers used the following methods: literature theoretical analysis on the research topic, observation, experimental research methods (questionnaires, interviews, pedagogical experiment), students' educational activity modelling with the help of media complex. The present research, based on introductory phonetic course for the first-year students of foreign language, can be classified as qualitative study.

Participants and Instruments

To assess the effectiveness of modern online resources and mobile applications to form phonetic and communication skills, the authors surveyed first-year students who started learning German with an introductory phonetic course in a distance learning environment. The popular SurveyMonkey system designed the survey, and it interrogated 40 students from the faculties of Romance and Germanic Philology and International Economic Relations. They were studying German as their first or second foreign language. The researchers framed the questions (see Appendix A: Survey results) for the interrogated to provide both closed (Yes/No) and open-ended responses (Comments):

Table 1. *Survey results (example)*

Question	Yes	No	Comments
<p>1. Were there any internet resources, mobile applications, and messengers used to develop phonetic skills at the online lessons? Which ones exactly?</p>	98%	2%	Zoom, voice recorder on mobile devices, Telegram, Viber, WhatsApp, Skype Quizlet, LearningApps, Padlet, Edupad, Dashboard, PicVoice, Answergarden, Kahoot, Duolingo, YouTube, different movies in German

Data, Analysis, and Results

Traditionally, the first stage of teaching a foreign language is an introductory phonetic course based on the “*Deutsch akzentfrei*” textbook (1995, 2014) developed by Tatyana Diomidovna Verbitskaja, Ph.D. in Pedagogy, Associate Professor at the Department of German Philology at Odesa I.I. Mechnikov National University, Ukraine. This course is required for the students starting to learn German as their first or second foreign language. Along with phonetic skills, the introductory phonetic course promotes linguistic, social, intercultural, pragmatic, and communicative competencies.

The main objective of this textbook is to develop students' auditory and articulation skills, imitating the development of native-like pronunciation, and provide a solid foundation for further work on improving the spoken language, which is the fundamental component of communicative competence. The introductory phonetic course contains many exercises, which focus on crucial differences between the studied and native languages and provides recommendations to prevent common mistakes caused by the interfering influence of the Russian and Ukrainian languages. The textbook has a lesson-based structure and consists of 12 lessons; each provides various social forms of offline work (frontal, independent, group, plenum) in the classroom; the training exercises and activities introduce phonetic material exclusively in a gradual manner. In compliance with this approach, a new phoneme or intonation model does not appear in any previous exercises until the introduction. Thus, the students master phonetic material in consecutive rational order within the progressive increase in difficulty level.

The textbook lists the exercises in the following order: a) focusing on the phonetic phenomenon under study; b) controlled training exercises to develop receptive and productive phonetic skills (sound and word combinations, intonation); exercises on practicing the pronunciation patterns until they become automatic; work with the text, questions/answers to it; the final productive communication-oriented task to promote interaction in a foreign language within the mastered auditory and pronunciation patterns. From the beginning of training, language material of the texts, visual and auditory presentation, and situation-centered assignments enable students to perform not only the language (training and preparatory) activities but also speech (simulative communicative and purely communicative) exercises that develop the discourse competence. In the age of distance learning, new challenges require updated approaches to the presented material and alterations in the lesson plan. Namely, the educators conduct the introductory phonetic course online. Therefore, they face a need to choose suitable online tools for organizing distance learning (training platforms, mobile applications, etc.) to keep both the education quality and the students' motivation high. The teachers should provide their regular feedback, establish a new motivation and support system for the students, and think out and organize their assessment methods using modern multimedia tools. At the same time, it should not affect foreign language communicative competence, the main objective of learning a foreign language.

The framework of the social presence concept, a subdivision of communication sciences, has studied the interaction between students and a teacher in computer-mediated communication. It has established the correlation between social presence and students' better cognitive understanding of the training content, motivation, and critical thinking (Richardson et al., 2003). Computer-mediated learning offers a shift from the traditional teacher-centered to a new student-centered model (Zolotukhin, 2013). The critical aspects of social presence are communication and interaction. The educators should consider these two aspects in regular and online classes, synchronous (videoconferences) and asynchronous (training platforms, mobile applications) categories of learning. Modern multimedia platforms can provide interactive learning. However, it differs significantly from the interaction occurring in communication among the students and the teacher. The contemporary theory of online learning recognizes the importance of interaction between the student and the teacher. In the age of distance learning, this interaction may be expressed as informal messages by e-mail, in chats, forums, comments, in other words, feedback. The teacher's timely feedback ensures social presence and has a positive effect on the students'

progress. It maintains the learning pace and provides a positive environment. In the ideal case, only a custom-designed virtual learning environment (VLE) ensures effective distance learning of a foreign language. This VLE should include electronic educational and communication tools that enable you to organize a full-fledged academic interaction among the educational process stakeholders separated by space and time. Language learning software interactivity may be the foundation for developing language and speech exercises and activity systems. At the same time, distance learning should provide a qualitative and quantitative assessment of the progress in the remote learning process. These conditions are required for the virtual learning environment to implement its functions such as informational and training, communicative, monitoring, and administrative (Vajndorf-Sysoeva, 2010).

The researchers deem it necessary to identify and emphasize the didactic properties and methodological functions of multimedia platforms and mobile applications to develop further an exercise system based on the introductory phonetic course “Deutsch akzentfrei” in VLE facilities. Especially within distance learning for adults, it is essential to optimize the virtual environment, where the education takes place, to ensure a successful learning process. The main features distinguishing a virtual learning environment from other learning formats include multimedia enhancements (a combination of not only graphic and text materials, but also audio and video materials); interactivity (the interactive relationship between the computer and the student); autonomy (organization of the educational process depends on the personal abilities and a student’s knowledge level); multifunctionality (the ability to form phonetic skills and communication skills of a foreign language through the interactive VLE interface).

Among the modern training language platforms, the authors should distinguish software with “hidden (implicit)” and “obvious (explicit)” phonetic components. Platforms of the first type develop phonetic skills through listening exercises with different levels of difficulty and repeating foreign language fragments after the speaker. For instance, the German Pronunciation Guide program is a pool of activities created exclusively for repeating separate words. In contrast, the communication simulator “*Ruf mal an!*” and the self-learning program “*Deutsch 1*” provide students with more complex tasks: listening to phrases and sentences, repeating them, and role-playing games (Richter, 2017). According to Richter (2017), the decisive factor in encouraging students during their work in a virtual learning environment depends mainly on the interaction of “student-VLE/VLE/-student” and the feedback given by the teacher acting as a mediator. However, the peculiarities of a foreign language as a subject and the psychological features of mastering it as a means of communication discourage a direct adoption of the distance education models for lectures that are common for theoretical disciplines. Only software with integrated speech recognition systems provides a direct phonetical assessment of the data entered by the students. The platform compares the uploaded examples and checks the correctness of the phoneme/phrase/syntagma repeated by a student. While evaluating the pronunciation correctness, some programs have such disadvantages as a narrow range of ratings: either a percentage of 10%-100% or the classification “successful/unsuccessful” or “foreign/native language.”

The category of platforms with “obvious (explicit)” components are represented only by such multimedia software specifically designed as simulators for solidifying phonetic skills and training programs with comprehensive, systematized explanations about the peculiarities and patterns of

articulation and intonation of the German pronunciation standard. Meanwhile, only a few programs meet these criteria. The required learning system is to maintain communicative facilities, such as internal e-mail and forum, accessible to all students and under the tutor's guidance, allowing him or her to adjust the learning activities of every student (Polat et al., 2001). While developing the distance courses structure, the educators should emphasize particularly tests and control tasks representing the interaction between the student and the system, but not the student and the teacher like in a traditional training system. The distance learning system supports a language similar in its facilities to TeX programming language and wiki mark-ups allowing the teacher and the students to communicate freely within the system without limits of tasks and solutions (Basev, 2012).

Many platforms enable you to deploy distance learning and adapt the introductory phonetic course "Deutsch akzentfrei" to VLE requirements. However, as part of the research, the writers have decided to review four free e-learning systems: Moodle, ATutor, Ilias, Diskurs, which are more suitable for organizations with a limited budget and therefore widely appreciated by eLearning enthusiasts and universities around the world. Despite their accessibility, these tools have unique didactic features and provide an interactive and enhanced educational process. The specific nature of each model of the distance learning process determines the selection and structuring of the content, means, forms, and teaching methods. The systems mainly focus on organizing a stable interaction between the teacher and the students, ensuring effective feedback despite the remote training facilities. The platforms provide you with qualitative and quantitative assessment of the students' knowledge and enable you to effectively organize the learning process with the help of seminars, webinars, tests, filling out an electronic register, and integrating various objects and links to the Internet resources in the lesson. For a detailed review, the researchers have analyzed all selected platforms by the following criteria: information accessibility, usability, flexible settings, platform functionality, learning materials support, learning materials development, reporting system, users' organizational structure (see Appendix B: Review of distance learning systems (DSL)).

Having conducted a comparative analysis of the advantages and disadvantages of the distance learning platforms presented in Appendix B, the authors can summarize the following peculiarities of each free e-learning system:

- Educational institutions, small businesses, and e-learning enthusiasts widely use Moodle. It is a powerful unit system, which you can upgrade to the level paid SDLs level through ready-to-use units. However, its implementation and configuration up to this level may take several months.
- E-learning enthusiasts mainly use ATutor. It is very similar to Moodle but not as popular. However, ATutor features many working units, extensive development opportunities, and an integrated constructor.
- Ilias is a learning system with an interface that resembles a social network. The main feature is its usability, comprehensive functionality, and a robust test editor. Now, many educational institutions worldwide use this platform, initially designed for German universities.

- Diskurs is software with a powerful integrated H5P constructor. The system features the Freemium model: at the first stage, it is free, but users should purchase any additional functions and services.

The mentioned above online learning platforms would perform brilliantly and facilitate a continuous learning process during the forced online phase. Working at the present research the authors were guided by the recent project of Goethe-Institut carried out by Dr. Marion Grein, PhD in Johannes Gutenberg University Mainz. According to Grein (2020), Moodle and Zoom are the most suitable learning platforms by teaching online phonetic skills while Zoom is more stable, but Moodle is free of charge. In real life, many Ukrainian teachers in educational institutions face a lack of universal distance learning platforms. Messengers (Viber, Telegram, WhatsApp), services for live video conferences (Zoom, Skype, Google Meet, etc.), and mobile applications (Quizlet, Quizizz, Kahoot!, Padlet, PicVoice, and many others) represent simple, accessible, and at the same time practical tools. These tools have enabled successful training in synchronous (video conferences) and asynchronous (messengers, mobile applications) formats, including the introductory phonetic course with its specific nature where both the teacher and the students work with and on a recorded speech. The critical and required methods are to hear the teacher, see his or her articulation, repeat it many times, and receive immediate feedback. Namely, the video conference format provides this opportunity in a live mode but within a strictly limited time. And the researchers cannot fail to consider poor connection quality affecting the audio signal and image. A vital prerequisite for acquiring solid auditory and pronunciation skills and achievement of the introductory phonetic course objective is the opportunity for the students to refer to the recorded examples at one end at any time, to listen and check themselves at the other end, and, of course, to receive the teacher's feedback.

Instead of focusing on the classical approach to work on pronunciation applied in the classroom format, the researchers will outline the features set by the online learning environment. At the initial stage of the teachers' and students' adaptation to the new background, the messengers (Viber, Telegram, WhatsApp) and voice recorders on mobile devices played an outstanding role. They enabled the students to listen to audio examples from their teachers, record themselves and send back the completed exercises in an audio format to their teacher, receiving the recommendations. It ensured the continuous learning process considering the features of an introductory phonetic course. The first step was to work in the class in a video conference format (synchronous work); the second step was to ensure the audio examples availability, as well as the opportunity to record yourself, to listen to yourself from a detached view, analyze the mistakes, and receive the teacher's feedback (asynchronous work in messengers). In the second step, the decisive factor for ensuring continuous learning and developing the necessary skills is students' independent and responsible work.

How should the educators keep students motivated, encourage their autonomous work, and prevent their interest in learning a foreign language, namely its phonetic aspect, from waning away? A vital form of cooperation in general and particularly in online training is communication (interaction) among the students themselves and their teacher; it creates a community, contributes to ideas exchange, and develops critical thinking skills. Albert Einstein once emphasized the need to share information and understanding to achieve growth by saying: Progress depends on the

exchange of knowledge (*“Fortschritt lebt vom Austausch des Wissens”*). Such interaction strengthens the sense of community, which is essential in online learning since it reduces the psychological distance between the students, increases the teacher’s social presence, and maintains an interest in the studied subject.

Next, the researchers dwell on the Web resource potential facilitating students’ independent work organization, contributing to better auditory and pronunciation, and communication skills. One of the main methodological preconditions for the students to acquire phonetic skills is the animated images of sound articulation, which implement the clarity didactic principle in foreign language teaching. In his essays on the psychology of teaching foreign languages, Beliaev (1965) said that “the clarity principle is far from being minor, it is one of the main methodological principles for teaching a foreign language when the training pursues practical goals” (p. 83). In online learning, there are several ways to implement this principle:

- Imitation of the teacher’s articulation in the classroom in a live mode (video conference).
- Watching videos on Youtube channels, such as Deutschlernen mit Sprachschaf/ Language Sheep (<https://www.youtube.com/user/LanguageSheep>) or videos specially recorded and posted by the teacher on his or her YouTube channel.
- Phonetik online course Phonetik SIMSALABIM-ONLINE (Hirschfeld et al., 2014) (<http://simsalabim.reinke-eb.de/index.html>)
- Understanding of sound formation by using the animated images on the website of the University of Iowa (<https://soundsofspeech.uiowa.edu/home>). The Sounds of Speech provides a comprehensive apprehension of each speech sound pattern of American English, Spanish, and German. It includes animations, videos, and audio samples that describe the essential features of each of the consonants and vowels of these languages.

The animation material serves as external support and an example of foreign sounds articulation; it helps the students to understand better and realize how to pronounce each specific sound. The lack of sound articulation animated images complicates the process of forming auditory and pronunciation skills.

The series and cycles of training exercises on the auditory, pronunciation, rhythm, and intonation skills ensure another methodological prerequisite for developing students’ phonetic skills. Designing a set of activities to improve students’ phonetic skills is the most challenging and requires careful research. The textbook of the introductory phonetic course “Deutsch akzentfrei,” to which our work refers, presents the required exercises. However, the adaption of the exercise system, which has already been developed and has proven itself in the classroom, to Virtual Learning Environment and its implementation in online classes in synchronous and asynchronous formats is still open. The practical solution of the issue requires the combination of three elements of online learning considered as a whole: asynchronous pre-class activities, synchronous live class, asynchronous post-class activities. The first element (Pre-class activities) is the Input phase, the second (Live class) is Collaboration and Interaction (for example, breakout rooms for group work), and the third (Post-class activities) is an independent material solidifying. The second element is a direct synchronous interaction among the students themselves and the teacher via

videoconference. In contrast, the first and third elements require mobile applications to ensure continuous learning, support the motivation of mastering a foreign language, and encourage students' independent work. In addition, the asynchronous activities are: short and easy to complete; provide immediate feedback and error correction (automated); allow to learn at own pace; are seen as essential; are easy to do.

The teacher in a live class emphasizes the importance of asynchronous via various techniques (direct advice, review activities, reflection activities). In the independent work in the asynchronous learning phases, the online service Padlet performed well; it features a wide range of functionality and an option to upload audio and video files, images, and active links. Padlet provides an opportunity for both independent and collaborative work in synchronous and asynchronous learning formats. Padlet is worth using during the implementation of an introductory phonetic course:

- To focus on the phonetic phenomenon under study, the teacher uploads the necessary audio material (e.g., training exercises) to the platform and adds active links where needed (e.g., The Sounds of Speech of the University of Iowa), its access for students is limit-free.
- While working independently, the students practice the pronunciation patterns until they become second nature, record them in audio format and upload them to the platform. Thus, the teacher and the coursemates can listen to audio recordings and give their feedback (for example, as a comment).
- Padlet is also suitable for completing the final productive communication-oriented tasks at the end of every lecture in the “*Deutsch akzentfrei*” textbook (for example, digital storytelling activities or presentations – audio, video, images). Besides, it enables you to organize a Peer review and Peer feedback that meets modern methodological requirements.

LearningApps software assists you in creating interactive listening exercises (Figure one) or recognizing rhythm and intonation patterns (Figure two):

Figure 1. Interactive listening exercises

Figure 2. Rhythm and intonations patterns

Voki is another online service allowing you to create talking interactive avatars. And as part of the introductory phonetic course, it enables students to train speech (both monologue and dialogue), complete the “Continue the story...” exercise. It provides an option of sending audio recordings and receiving feedback.

PicVoice and ChatterPix mobile applications have performed well in helping the students to master speech skills since they enable you to voice any image (photo or picture). Shadow-Puppets Edu application features an option of adding an illustration and a caption, while the easy-to-use Flipgrid platform is used for video ads and provides students and teachers with video responses from 15 to 90 seconds.

The researchers will use two tasks performed by the students in the PicVoice and ChatterPix applications as examples. Their objective has been to demonstrate considerable skill in generating speech in German, taking into account its phonetic organization and preserving its intonation features and rhythm. And the PicVoice application helped them create a voiced illustration for the “Deutsch akzentfrei” textbook (Figure three), using materials only from the completed chapter within the mastered auditory and pronunciation patterns. (e. g.: “*Es ist zwei Uhr. Der Vater steht am Fenster. Die Mutter, Uwe und Ute sitzen um den Tisch. Die Mutter näht. Uwe und Ute essen usw.*” Translation into English: *It’s two o’clock. The father is standing by the window. The mother, Uwe, and Ute are sitting around the table. The mother is sewing. Uwe and Ute are eating, etc.*).

Figure 3. Voiced illustration by the PicVoice

A similar task (voicing over the image with an option of adding the characters’ animated articulation) was also performed in the ChatterPix application (Figure four and Figure five), though its goal was to create dialogue (e. g.: – *Hallo! Ich heiße Eva. Ich lerne und spreche Deutsch. Und du? – Grüß dich! Ich heiße Peter. Ich spreche Deutsch, aber ich lerne auch Französisch.* Translation into English: – *Hello! My name is Eva. I am learning German. And you? – Hi! My name is Peter. I speak German, but I’m also learning French*).

Figure 4. Voiced illustration by ChatterPix 1

Figure 5. Voiced illustration by ChatterPix 2

The Padlet resource features the posted interactive tasks for the stakeholders to look through/listen to the created product, leave a comment or ask a question. And the teacher is enabled to assess the results of the work and provide his or her feedback. Thus, from the beginning of training, students perform language (training and preparatory) activities and speech (simulative communicative and purely communicative) exercises, which eventually contribute to better discursive competence.

Mobile applications and online resources help the teacher to design an independent gamified motivating virtual learning environment (VLE) with a step-by-step sequence of three types of activities: 1) training exercises that do not imitate verbal and cognitive actions of real-life communication but aim at working out and solidifying the language (in our case, phonetic) material; 2) simulative communicative exercises that imitate and simulate a communicative situation for educational purposes; 3) purely communicative tasks which completely imitate the verbal and cognitive functions for the students to use a foreign language in authentic situations as in real-life communication.

In the classroom and within distance learning, the teacher exercises continuous and final control over students' performance based on the criteria and indicators of their phonetic skills formation level. The 2018 Begleitband zum GeR/Common European Framework of Reference for Languages has presented an updated scale for assessing segmental and suprasegmental competencies and a wholly revised phonological competence assessment scale (Drahmen, 2019). It is noteworthy that pronunciation competence assessment depends on the prior knowledge and skills of the assessed to a much greater extent than other areas of the language (e. g., grammar). While incorrect grammatical constructions are easy to identify, there are no clear criteria for evaluating "good pronunciation." Previously, the assessment used to focus on the foreign accent or its absence: "The phonology scale was the only CEFR illustrative descriptor scale for which a native speaker norm, albeit implicit, had been adopted" (Europarat, 2018, p. 47). As far as the main objective of modern foreign language teaching methods is improved communicative competence, the students' phonological competence assessment under the updated criteria focuses on a sufficient accuracy of their pronunciation for a smooth communication process: "Students whose L2 production is not entirely native-like but who are able to communicate effectively are successful L2 users" (Kennedy & Trofimovich, 2008, p. 460). All training activities and final productive exercises adapted for the Virtual Learning Environment are communication-oriented and enhance interaction in a foreign language within the mastered auditory and pronunciation patterns. The

skills automation is complete only when the student masters the ability to use the studied material in natural communication, which is the primary indicator of phonetic skills level.

Discussion

Summarizing the survey results, the researchers can conclude that students perform tasks via mobile applications and Internet resources with great interest. Modern multimedia increases their interest in learning a foreign language, and teachers can stay in touch with their students, provide them with feedback and support, creating the effect of social presence, which is essential in a distance learning environment. Besides, the students appreciate the continuous educational process ensured by synchronous and asynchronous learning forms.

Conclusion

The aim of the study is to expand a universal methodology to form communication skills (interaction) while teaching phonetic skills through a virtual learning environment using learning platforms, online tools, and mobile applications. The researchers have conducted a detailed analysis of current media platforms, websites, and mobile applications for creating the Virtual Learning Environment within distance learning of foreign phonetic skills and defined principles of phonetic skills formation based on the VLE and suggested approaches to form foreign phonetic and communication skills with the help of interactive tools. The scientific community's greater interest and many publications on the subject determine the relevance of the research topic. A crucial issue is to determine the most effective tools and technologies that complement traditional teaching methods and contribute to the learning process improvement and enhancement.

Implications and Recommendations

In summary, the researchers can conclude that such features as interactivity, autonomy, multifunctionality provide the training platforms and mobile applications mentioned above with great potential in teaching foreign languages. They create the environment for students' self-development and self-education, encourage them to take responsibility for their learning process, and motivate their learning activities. Besides, they create a psychologically safe environment for such types of speech activities as listening and speaking, boost phonetic skills, ensure continuous foreign language learning process in the age of enforced online learning and nurture the students' creativity. In our opinion, a required precondition for effective online learning is, firstly, teachers' free access to a platform that enables comprehensively designed distance learning, including an introductory phonetic course, and secondly, an increase in the media literacy level of both students and teachers themselves.

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Appendices

Appendix A: Survey results (continued)

Question	Yes	No	Comments
<p>2. Did the use of Internet resources and mobile applications affect your motivation to learn the German language within distance education? In what way?</p>	92%	8%	<p>I got more motivation to learn German; Desire to understand films in the original, read books and articles on social networks with the correct translation; My motivation increases; I like any Internet resources and mobile applications, and my motivation has increased; It has motivated me a lot; Positively, it is more interesting to learn German using mobile applications. increasing interest and motivation; It is more enjoyable with apps; It's easy to find more information; The effect was somewhat positive; They motivated me because they helped me to learn more helpful information. And all those app notifications always reminded me that I had to learn some new words or rules.</p>
<p>3. Did you experience the social presence of your teacher thanks to digital tools used during the online classes? How exactly?</p>	100%		<p>I feel constant support and feedback; Help, communication, tips; communication, feedback;</p>

<p>3. Did you experience social presence of your teacher due to digital tools used during online lesson? How exactly?</p> <p>Пропустили: 3 Ответили: 37</p> <p>Yes 100 % 37</p> <p>No 0 % 0</p> <p>Другое (уточните) 22 ></p>			<p>The teacher was constantly in touch via Telegram and gave me personal feedback on my recordings. And the online format was comfortable.</p> <p>We received good feedback and support during online lessons.</p> <p>I received support and quick feedback.</p> <p>Quick feedback; The teacher's communication and constant feedback;</p> <p>The tutor's support and feedback felt real.</p> <p>Our educators were always ready to explain to us some complex topics, so there wasn't a lack of teachers' attention.</p>
<p>4. In your opinion, do e-learning forms like video conferences, different internet resources, or mobile applications let us provide continuing education?</p> <p>4. In your opinion, do e-learning forms like video conferences, different internet resources or mobile applications let us provide continuing education?</p> <p>Пропустили: 4 Ответили: 36</p> <p>Yes 100 % 36</p> <p>No 0 % 0</p> <p>Другое (уточните) 21 ></p>	100%		<p>You can take online tests using educational applications and improve your knowledge;</p> <p>It became more exciting to do homework and remember what you learned;</p> <p>These resources let me provide continuing education;</p> <p>Easier to recollect a new topic;</p> <p>Such technologies make studying more engaging that's why I didn't lose motivation.</p> <p>It is more enjoyable and easier to assimilate the material of the lesson.</p> <p>It allows repeating the topic of the lesson.</p> <p>It is easier to do homework with mobile apps.</p> <p>You can use it at any time;</p> <p>I like the e-learning form because it's a new experience.</p> <p>You can fix a new topic yourself using the Internet.</p> <p>Teachers can quickly consolidate information.</p> <p>Students can revise the material by themselves using websites and mobile apps.</p> <p>They do beyond all reasonable doubt without considerable deterioration of the results.</p> <p>It's always easier to learn something new with different apps;</p> <p>It encourages autonomous learning.</p>
<p>5. What characteristics of online educational platforms, Internet resources, and mobile applications can develop phonetic skills?</p>	-	-	<p>Modernity, autonomy, multifunctionality; interactive, relevant;</p> <p>It is modern, interactive, for example, Quizlet. It's my favorite app for online education!</p> <p>It promotes independence; it's relevant and interactive;</p> <p>Technologies allow to receive more personalized feedback, work in groups and help groupmates.</p> <p>Moreover, they are exciting and up-to-date.</p> <p>These platforms are interactive, modern, and enjoyable to use;</p> <p>It is interactive, multifunctional, relevant, engaging, and up to date.</p> <p>Interactivity, multipurpose, modern technology;</p>

Appendix B:
Review of distance learning systems (DSL)

DSL	Information accessibility	Usability	Functionality	Learning materials support/ development	Reporting system;	Users' organizational structure
Moodle	Instructions on the platform configuration and its use; detailed documentation in English;	User-friendly; open code, the design can be entirely customized by a user;	Availability of ready-to-use plugins for conducting tests, video courses, and webinars;	Support all modern formats; an integrated learning content; the designer is not available;	Statistics and reports depend on the installed units;	The opportunity to add users manually, invite them by e-mail, or allow them to register themselves;
ATutor	Text guides from users; availability of detailed documentation on the website;	The user's interface is intuitive and straightforward; the administrator's interface requires special knowledge;	The platform depends on the installed units and your development; the opportunity to conduct courses, webinars, tests;	OpenSocial 1.0 support, IMS and SCORM 1.2 and v2004 RD3 standards;	The reporting system is quite limited; you can download statistics in CSV format;	The opportunity to add users manually, invite them via e-mail or allow them to register themselves;
Ilias	Detailed documentation in English and German; text and video guides on the platform use; availability of development plans for universities;	The interface is similar to a social network; the platform targets universities and students; administering is simple;	An option of uploading, creating, and assigning the materials; availability of notification and communication tools;	IMS standards support, as well as SCORM 1.2 and v2004 RD3 support; there is an integrated content designer;	You can download statistics in XML and CSV formats; plugins can customize columns in reports;	The opportunity to add users manually by importing a file, invite them by e-mail, or allow them to register themselves;
Diskurs	Detailed instructions on installing the platform and its use; text and video instructions from users are not available;	Installation is simple; the primary interface of the platform is straightforward; the opportunity to customize it for an additional fee;	An option of uploading, creating, and assigning courses;	SCORM, AICC, xAPI, and CMI5 formats support; lesson constructor creates content via the H5P platform;	The basic version offers only course reports;	An opportunity to add users manually or by importing a CSV file;