

Digital Transformation of Higher Education: EFL Teaching and Learning Experiences

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ABSTRACT

The article focuses on the processes of digital transformation in higher education in the context of teaching EFL to Russian first-year students of non-linguistic specialties. Literature review on the challenges of introducing digital technologies into foreign language learning activities is given. Benefits of digital storytelling as a form of digital media production, allowing students to acquire both information technology skills and competences and a foreign language communicative competence, are considered. The comparative analysis of students' typical errors, made in their oral narratives, is conducted. The potential of the use of digital storytelling in EFL university classroom is discussed. The authors' experience in carrying out the digital storytelling project proves its potential in a foreign language learning environment for developing and improving both students' professional competences and soft skills.

Keywords: digital transformation, digital storytelling, higher education, EFL, speech errors

1. INTRODUCTION

Digital transformation in educational institutions of different levels is regarded as a priority task in the process of implementing the national project "Education". Solving the problem of creating conditions for formation of a digital education environment, aimed at the implementation of the federal project "Modern digital education environment in the Russian Federation" is also a matter of great significance. The importance of undertaking the initiatives related to this field can't be overestimated as the development of the digital educational environment should ensure the country's transition to the digital economy. Making educational transformations involves modernization of the education system, bringing learning programs in line with the needs of the digital economy, widespread introducing in educational activities various digital tools, as well as online learning development. For that reason, recent years have been marked by close attention of educators and teachers to issues related to the introducing and development of digital classroom technologies. Ways and forms of optimization of the education processes with the use of modern computer tools in the context of teaching a wide range of disciplines are tested and implemented. Creation of an active educational environment based on the newest information technologies' usage is convincingly proved to stimulate the students' acquiring and improving a wide variety of skills and abilities, including independent information search skills, creative abilities, promotes creativity to solve challenging problems, enables learners to master soft skills, possession of which enables graduates to be successful in their working life and to expand their employment opportunities [1, 2]. Most authors emphasize the positive impact of latest information technology tools on university students'

critical thinking development, increase of their interest to the learning process and the subject being studied, positive effects on motivation. According to T. V. Nikulina and E. B. Starichenko, "productive use of digital technologies, the inclusion of students in independent search and information selection, participation in project activities form their competences of the XXI century" [3]. Despite the undeniable advantages of implementing the modern education paradigm, the issue of introducing the latest active forms of learning within the competence-based framework remains debatable [4]. Along with the creative search and discussion of positive examples of the digital technologies' introduction in the learning process, the literature discusses numerous challenges and problems which educational institutions face in the context of digitalization and digital transformation [5, 6]. Demand for distance education in the context of the pandemic, the processes forcing digital transformation of educational institutions has shown that despite the fact that the majority of the teaching staff possess a good level of digital literacy, not all the teachers are ready to work in a virtual educational environment: "in the context of an emergency transition of educational organizations to distance learning, self-isolation of children, their parents and teaching staff, teachers' competence deficits, requiring work on their compensation and elimination, have been identified" [7]. This situation is not typical only for the Russian higher education system – the pandemic has served as a challenge to the world educational space [8]. Alongside with the development of digital literacy and competencies, modern reality determines university graduates' need for acquiring and improving a foreign language communicative competence: today, the requirements for knowledge of a foreign language, mostly English, are imposed not only on future specialists in the area of language education, but on future professionals in

all sectors of economy. The inefficiency of using only traditional teaching methodology is named among the main reasons for the unfavorable situation with the knowledge of foreign languages and their insufficient knowledge by the Russians [9]. Despite introduction of new methods and technology, the use of electronic resources in the field of foreign language teaching and learning remains an urgent and unresolved issue [10].

It is logical that this necessity encourages foreign languages educators and practitioners to develop and apply new effective educational models and methods, in the situation of the higher education digital transformation this process can't be stopped. The ability to carry out oral and written communication in a foreign language, for both performing professional duties and daily life activities, can only be acquired under the conditions of changing principles for organizing the educational process and introducing new learning technologies [11, 12]. Measuring the effectiveness and the role of digital technologies in learning and teaching processes and removing barriers to their successful implementation are the most important tasks of modern higher foreign language education. These goals can only be achieved through implementing new technology, analyzing digital activities' efficiency, and assessment of their effect on the students' learning progress.

One of the most effective teaching tools which has proved to increase productivity for the EFL classroom, is students' digital stories creation. Digital storytelling is considered to be a fruitful methodology which allows using modern technology for teaching and learning different disciplines. Digital stories are virtual oral and written messages aimed at communicating with the others and holding the audience's attention in the process of sharing your understanding and ideas on different issues. They have been widely and successfully used in teaching foreign languages abroad. Benefits of their use in the educational process are numerous. Among the most significant is the acquisition of the skills, which are known as crucial for learning and working in the 21 century [13]. Digital storytelling projects in the context of foreign languages' education are known to improve a variety of students' skills, such as research, presentation, organization, technology ones and the others [14]. The findings presented by M. Abdelmageed, M. & Z. Ali El-Naggar show a statistically proved positive effect of digital storytelling on the English language learners' oral performance [15]. The process of digital story making has also demonstrated to efficiently promote learners' writing skills [16].

Despite educators' and university teachers' recognition of its significance and positive effect on learners' acquiring and improving both foreign language and digital competences, educational uses of digital storytelling in Russia remain limited, and the benefits of this technology have not been fully appreciated. Evaluating the effectiveness of this educational tool for developing a foreign language communicative competence can definitely assist in recognition of the potential of its implementation in the teaching and learning processes.

The most important components of foreign language communicative competence are the speech competence, which involves the development of communication skills in various types of speech activity, and the language competence, aimed at mastering phonetic, grammatical, and lexical language means allowing students to express their thoughts in a non-native language. When making a digital story, students, having been provided with the mentioned above foreign language means, are given the possibility of using them for producing a coherent story. Moreover, digital storytelling gives students a unique opportunity to listen to their oral narratives' production and analyze their speech mistakes.

Error analysis conducted by both students and teachers is an important stage in the process of mastering a foreign language: this stage allows learners to recognize difficulties in oral and written communication, identify problem areas and focus on them in order to improve the level of foreign language speech correctness and communicative ability. The literature review confirms the interest of methodologists and teaching practitioners to errors and their correction in foreign language teaching: qualitative and quantitative characteristics of speech errors, their types as well as the nature of their changes related to the learners' progress are thoroughly considered in modern literature. Most of the research focus on non-normative foreign speech deviations within the interlanguage interference theory framework [17]. The interference theory was introduced and developed in the second half of the 20th century, but the study of the influence of the native language on non-native and foreign languages' acquisition remains relevant for foreign languages' teaching process today.

Correct academic foreign language oral and written speech a is a challenging but feasible task. Professional and scientific communication of students in a foreign language is characterized by the presence of phonetic, lexical and grammatical errors [18]. Typical errors of native Russian speakers in the English speech are proved to be caused by significant differences between Russian and English at different levels of the two language systems. Their analysis confirms the stability of phonetic deviations both at the segmental and super-segmental levels. The influence of the native language of the Russian students on their English speech production is also prominently seen on syntactic level (word order errors). One of the main goals of teachers is to find ways of anticipating Russian students' errors which can prevent learners from performing their communicative task [19].

The development of digital technologies has an impact on this area as well: the appearance of "new errors" in oral and written speech associated with the students' use of machine translation to produce texts in a foreign language does not always lead to the desired result and requires researchers and teachers' special attention [20]. Comparison of the original texts and their translations indicates the modern students' need for acquiring not only a foreign language competence but post-editing competence and skills.

2. METHODOLOGY

The analysis of digital storytelling as a method of EFL teaching has led to its approbation in the Ural State University of Economics. Students are motivated to work in international companies, to go abroad for further education and to communicate with foreigners. However, traditional teaching methods do not always inspire them to language learning. We believe that digital technologies can be a solution to the problem

Thirty-six first-year students majoring in IT have been chosen for the experimental digital storytelling methodology. The following reasons were at the basis of such sampling: 1) IT students can easily use hardware and software necessary to take a video, record the sound and edit a footage; 2) first-year students know little about the university and this task helps them to adapt to a new environment; 3) successful completion of a challenging task serves as additional motivation to study.

The experiment included two stages – at the beginning of September, the students received the instructions on the task and got acquainted with the general ideas of digital storytelling and the criteria for their evaluation. At the first stage (further referred to as DS1), they were asked to make up a digital story on the topic “*My University. My profession*”. The second stage of the experiment (DS2) was held in March 2019 when the same students were asked to make another digital story to highlight one of the socially relevant issues, among which are the following: “*Say no to corruption*”, “*Say no to drugs*”, “*I vote for peace*” and “*Ask not what your country can do for you. Ask what you can do for your country*”.

The following criteria for digital story evaluation were chosen: 1) content management (the story should be logical and coherent); 2) structural completeness (the beginning, the main body and the conclusion are to be clearly outlined); 3) involvement in presentation (the prosodic features of the text should be relevant); 4) emotional impact on the audience (the visual part should enhance the verbal one to emphasize the idea); 5) pronunciation, lexical and grammatical accuracy (the mistakes should not violate the meaning).

3. RESULTS

This paper focuses on the fifth criterion and describes the students’ mistakes in DS1 and DS2 to find out if the implementation of digital storytelling in teaching English is efficient in language competence development. The analysis proves that the main causes of the mistakes are language transfer (both interlingual and intralingual interference), psychological barriers, lack of skills of contextual guess, as well as poor development of soft-skills of self-correction and independence. One of the classifications of mistakes, frequently used in teaching practice, identifies pronunciation, grammar and lexical mistakes. The average number of mistakes per student in

the digital stories made at different stages are shown in Table 1.

Table 1 Average number of mistakes in DS1 and DS2

Stage	Pronunciation	Grammar	Lexical
DS 1	3.64	1.32	2.36
DS 2	2.76	2.06	1.18

The experiment has revealed two tendencies: the average number of pronunciation mistakes decreased in DS2, however, the number of grammar mistakes increased in DS2. To find out the possible reasons and to offer a solution, we analyzed mistake types and worked out an original digital storytelling methodology to make it an efficient tool to eliminate speech mistakes.

Pronunciation mistakes have been registered as the most numerous in the digital stories under analysis. Five types of pronunciation mistakes have been identified:

1) On the segmental level, mispronunciation of vowels, consonants and clusters caused by poor knowledge of the rules and the abundance of exceptions from these rules in English is a frequent mistake made by the Russian learners. Typical mistakes in consonant articulation are the following: *knowledge*, *psychological* (both consonants in *kn-* and *ps-* clusters in the beginning of words are pronounced), *doubt*, *climb* (mute consonant *-b* is articulated), *center*, *special* (the consonant *c* is pronounced as [ts] under the influence of the mother tongue), *choice* (*ch-* combination becomes a [ʃ] sound). As for the vowels, the most typical errors are: *among*, *company*, *other*, *allow*, *become* (*o* is pronounced as [o] sound instead of [ʌ]), *leader*, *realize*, *each*, *measure*, *great* (vowel combination *-ea* in these words is pronounced differently, either as [i:], [iə], [e] or [eɪ]). Students have demonstrated the tendency to choose pronunciation variant randomly), *fundamental*, *dining*, *finally* (mispronunciation of the vowel in the stressed syllable due to poor knowledge of the rules of free and checked syllables), *besides*, *advanced*, *banned* (mute *-e-* is pronounced under the influence of the Russian language). To conclude, these mistakes are quite numerous, this type of phonetic errors is found almost in every student’s digital story. The reasons for such frequency are both the Russian-English interlanguage interference and lack of students’ phonological and phonetic competence. The fact that English letter combinations may represent one sound, can be dropped or pronounced differently in different words always cause serious difficulties for the Russian learners of English.

2) Replacement of sound-types as a result of phonetic interference is another frequent pronunciation mistake when L1 (mother-tongue) interferes in the functioning of L2 (target language). Such mistakes have been registered on two levels. On the level of a sound, phonetic interference affects L2 sound-types that do not exist in L1 and therefore, the Russian learners tend to replace them by a similar sound from the native language. For instance, post-alveolar [r] is replaced by its rolling variant typical for the Russian language (in such words as *rapidly*, *presence*). Moreover, Russian students pronounce

rolling [r] in the words which tend to drop this sound (*teacher, support, years, etc.*). On the level of a word, phonetic interference is present in such words as *Ural, virus, courage, institution, cultural*, articulation of which is adapted to the Russian type. Although these mistakes do not cause change in the meaning, they make speech sound foreign and should be worked on.

3) Speaking about suprasegmental level, non-normative word stress shifts also belong to the category of common mistakes. The following words with the erroneous stress location, marked by apostrophe, can serve as examples of suprasegmental mistakes: *a'rea, advan'tage, cons'tantly, 'developing, 'connect, 'directly*. These mistakes can be accounted for by students' low motivation to check words' pronunciation in the dictionary as well as lack of teachers' attention paid to this type of mistakes' correction, as they do not impede communication acts. However, we believe that identifying and correcting typical errors of this kind it is of great significance, especially in the assignment is to be done at home.

4) Mispronunciation of abbreviations, shortenings and complex words. There is a strong tendency to use abbreviations in the Russian language today (names of universities, exams, official establishments, titles). It is important to teach students to render them in English properly. For instance, the name of the University "Ural State University of Economics" is often abbreviated to USUE. However, the abbreviation without any explanation what it stands for, is meaningless for the students of other universities or foreigners. Besides, in DS1 students pronounced it as an acronym in four different ways ([*jusue*], [*usuə*], [*ufju:*] and [*usua*]). Other examples of such errors are the abbreviations *UrFU* (Ural Federal University), *AUCA* (American University of Central Asia), *SINH* (former name of Ural State University of Economics, which is used in spoken language) and some others.

5) The least frequent type of mistakes on this level is mispronunciation of words caused by the similarity of their graphic images. In this case we deal with intralanguage interference. For example, *to live* – live; *realize* – release, *to choose* – choice, *higher* – hair – here, *study* – steady, *know* – now, etc. The italicized words in students' digital stories have often been mispronounced. Such mistakes can lead to communication failure and are necessary to be corrected.

Classification of grammar mistakes is a complex issue in linguistics and methods of EFL teaching. In this study we focus on some morphological mistakes (use of word forms) and syntactical mistakes (sentence structure violations). The registered morphological mistakes include: 1) the absence of agreement between the subject and the predicate (**The learning give.., *...how the technology work, *Prohibited drugs means... etc.*); 2) absence of a link verb or its misuse (**There is several reasons, *Learning in this university good, *Now a lot of specialties connected with IT, *Traffic jams is a big problem, etc.*); 3) inability to correlate a pronoun with the noun (**He (the city) was leading, *I loved him (computer science lesson)*); 4) wrong use of tense forms in conditional clauses (**if you will tell them*); 5) use of

simple verb forms instead of perfect ones (**I choose this university*); 6) misuse of the verbs used after modal and auxiliary verbs (**We can broke the mountains, *will starts to last, *will don't be different, *can be happen, etc.*). Most of these mistakes are caused by the native language interference, for instance, using personal pronouns "he" and "she" in reference to inanimate objects, omitting a link verb in present tenses, expressing the aspect with the help of affixes are typical of the Russian language. As for misuse of constructions with modal and auxiliary verbs, it can be the result of little practice: doing grammar exercises in class is not typical of communicative language teaching approach.

Among the most typical syntactical mistakes are the following: 1) violation of word order (**My specialization I found only, *In my university very well-developed sport, *This number was me, *The highest result showed USUE*); 2) violation of an interrogative sentence structure (**Why I chose this university? *What you can do for your country?*); 3) inverted word order in complex sentences (**I want to talk about why did I choose this university*); 4) repetition of the subject (**Bureaucracy it is a dangerous phenomenon, *The money allocated for social needs it's not properly used*); 5) absence of principle parts of the sentence (**In winter thoroughly clean the city*). The abundance of such mistakes is caused not only by the mother tongue interference, but also by the use of machine translation in text production.

To conclude, pronunciation and grammar mistakes analysis is significant for helping teachers work out approaches and exercises to prevent and eliminate them.

4. DISCUSSION

The following digital storytelling methodology may help to eliminate pronunciation and grammar mistakes: 1) digital stories are shown in class; 2) while watching them, students self-evaluate the results on the basis of evaluation criteria provided before the task completion; 3) the teacher makes notes of different types of mistakes and corrects the typical ones at the end of the class without personal reference to the students. In DS1 we recommend not to reveal the names of the students who have made the mistakes. In DS2, however, mistakes correction should be personal to concentrate students' attention on their own results and help them identify the rules to be studied and the skills to be developed; 4) only typical phonological and grammar mistakes should be corrected; 5) mistakes caused by the interference of the mother-tongue should be paid attention to in English classes during the term. They may not be corrected immediately after digital stories presentation, but need to be explained and exemplified later.

As a result of comparative mistakes analysis, we have found fewer pronunciation mistakes of all types in DS2. The best result has been shown for English sound-types (the average number of mistakes decreased from 1.07 to 0.23) and abbreviations, mistakes in the pronunciation of which have completely disappeared.

However, grammar mistakes appeared to be underestimated in DS1 and their number has grown in DS2. DS2 topics appeared to be more complex which resulted in the use of machine translation producing texts with numerous syntactical errors. However, such result is not the reason to consider digital storytelling ineffective in language teaching and learning. On the contrary, it serves as an “acid test” to reveal typical and global mistakes which may prevent successful communication in a foreign language. It also proves the necessity of introducing students to teaching the course on post-editing.

5. CONCLUSIONS

To sum up, our hypothesis has been partially confirmed – digital storytelling is a variant of digital transformation of both, language teaching and education in general, as it assists in developing language skills and motivates students to learn. More than 80% of the students admitted that it was interesting to make up digital stories and they would like to practice this task more often. Therefore, digital storytelling proves to be a creative technology; it meets the students’ needs and requirements for the digital transformation in the society development; it has both teaching and learning potential (teachers can watch digital stories several times to identify learners’ mistakes and work out the correction practice; students are able to develop self-correction skills); it involves students in language learning more than traditional storytelling; it develops professional skills (presentation of new ideas, digital CV) and students’ soft skills (self-control, time-management and independence).

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