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**INFORMATION ERA CALLS FOR WEB BASED EDUCATIONAL
MODEL**

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Abstract

The digitalisation of higher education is essential in the information era. Today’s students being digital natives from childhood strive for innovations and independent knowledge construction. The transformation from the conventional to distant classes is the inevitable requirement of the Covid pandemic situation. These issues make the given research particularly acute. The implementation of information communication technologies, which accelerate the process of collection, accumulation, storage, processing and transmission of educational information, into higher education curricula is critical nowadays. The given article puts forward the issues of blended learning and describes the Web based teaching model to be used in the system of higher education as the foundation of preparing contemporary specialists. The research examines the pros and cons of various forms of blended learning opposed to the traditional classroom education and techniques. The researchers place focus on the needs of knowledge-based content and emphasize technology to ensure young professionals’ competence in a digital age. This paper includes the research on the efficiency of the wiki based model in the experience of teaching the English language among 100 students of Nizhniy Novgorod of both linguistic and non-linguistic majors. There the experimental use of web tools is seen as means of improving writing and speaking skills along with developing students’ motivation, the self-tracking progress scheme and personalized learning.

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Keywords: Teaching English, web based model, methodological algorithm, blended learning, wiki sites



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1. Introduction

Modern educators as well as modern learners are focusing on an individual route when constructing knowledge. Learner's autonomy today is regarded as an essential part of any learning process and digitalization is seen as a vital goal of foreign language acquisition. The contemporary development of technology-enhanced education calls for innovative projects to provide digital natives with brand new educational tools. While going global the system of Russian higher education is to catch up with the leading ones so implementation of new models of future IT specialists training is acute.

The integration of innovative teaching methods into the educational process of the higher education system has been touched upon in the research papers by Mashbitz (1988), Robert (1994), and Titova (2014). They devoted their profound studies to the use of information communication technologies in language learning, in particular.

Modern educators as well as modern learners go public for the VUCA (Volatility, Uncertainty, Complexity, Ambiguity) world much spoken about before the pandemic. The realities of today may offer increased opportunities and improvements to the system of education many of us are used to. The focus is an individual route and knowledge construction. The learner's autonomy today is regarded as an essential part of any learning process and digitalization is seen as a vital goal of foreign language acquisition. Staying away for quite a long time from brick and mortar buildings during the pandemic made both teachers and students realize that using digital tools and working independently can be as much successful and efficient if the process is arranged and guided and the results are thoroughly assessed. Howard Gardner introduced the theory of multiple intelligences that proposes that people are not born with all of the intelligence they will ever have. Eight different intelligences were described (linguistic, logical-mathematical, spatial, bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalist) each allowing one to differentiate the approaches when applying learning methods and techniques. Multiple intelligences theory states that everyone has all eight intelligences at varying degrees of proficiency and an individual learning style is unrelated to the areas in which they are the most intelligent (Gardner, 2011).

2. Problem Statement

The novelty of the proposed model covers the integrated application of the project methodology with the wide and effective use of web-based technologies during the training activities of the students of IT related departments. These are Business Informatics, Software Engineering, Applied Mathematics with the detailed planning of the stages of assignments with time and resources, and the integration of various interactive and information communication technologies (LMS, flashcards, web-quest, web-sites, slide-shows, video-presentations etc.). A wide range of the mentioned technologies does not overload the educational process due to the right pedagogical and didactical approach. The introduction of professionally directed training of an IT specialist is based on differentiation of the tasks and individual approach. While forming a foreign language competence, a set of didactical materials was used to blend a row of educational sites ("wikis") into the educational process.

According to Szesztay (2019) the teachers should aim at building open and inclusive communities out of the roomful of individuals though those individuals are constantly urged to stay connected to virtual reality through their personal gadgets.

Thus, the main purpose of our work is to offer ways to enhance the process of teaching the English language and learning by implementing the use of educational wiki sites for both the first undergraduates who are to write their project proposals in English.

3. Research Questions

Many educators today encourage students to get involved in online problem-based activities aiming at promoting their learner autonomy and getting life skills (Project management, 2021).

At a university level, the type of knowledge provided and skills required of graduates is rapidly changing. From a teaching perspective as Tony Bates pointed out in the nearest future the biggest impact is likely to be on technical and vocational instructors. The researchers highlighted features of knowledge-based workers in a digital age:

- they are digitally smart or at least competent digitally; digital technology is often a key component of their work;
- because they often work for themselves or in small companies, they play many roles: marketer, designer, salesperson, accountant/business manager, technical support;
- they depend heavily on informal social networks to bring in business and to keep up to date with current trends in their area of work;
- they need to keep on learning to stay on top in their work, and they need to manage that learning for themselves;
- they need to be flexible, to adapt to rapidly changing conditions around them (Bates, 2019).

It is evident that technological changes as a way to ensure university level learners' independent knowledge and further building of the skills are required.

- In this way, the given research poses the following questions:
- Is web based learning a call of the modern time period?
- Will the given model be applicable in both Technology and Humanities?
- Has web based model proven its efficiency?

4. Purpose of the Study

The educational model of wiki use can be used to intensify the process of study, improve the individual student-centered approach and increase motivation. The goal of the research is to justify this hypothesis.

Today's students are digital natives since they were born into a world of information technology and are good at multitasking rather than focus on one thing at a time (Reilly, 2012). The modern educational process in higher education is the process of providing these students with strategies for active learning and processing information for the purpose of its further practical application.

Language learning is a complex process, which requires knowledge of grammar patterns, specific features of lexical structures and acquiring listening, reading, speaking and writing skills. To bridge the gap in teaching English to IT specialists without any technical assistance, the model that combines conventional and web based ways of teaching has been created. A special model is to be tested in terms of its efficiency.

The proposed model (Figure 01) enhances traditional forms of classroom work using various innovative forms of learning by means of Web technologies, electronic campus environment created by LMS, language corpora (COCA, etc.), Massive open on-line courses MOOCs (Coursera, Canvas) and Wiki sites.

Introduced Wiki, used by Ward Cunningham and borrowed from Hawaiian ("wiki-wiki"), which denotes "fast", implies fast access to information. It reflects the dynamism of working with the material, provides the opportunity for project work in groups of students, who are accomplishing a single task remotely in real time. A multidimensional communication is realized (student-student, student-teacher, teacher-teacher, teacher-group of students). The author has created the several educational sites for education purposes (the one with the link <https://sites.google.com/site/frolovanh>) to support teaching the "Business English" academic discipline and the wiki site for students of ICT development courses (<https://sites.google.com/site/lmsnovgorod>).

5. Research Methods

The authors have developed an algorithm including 4 stages in order to implement the wiki based model into the teaching process of Bachelor training.

The first one is the organizational stage. At this stage, there is an introduction to technology of enhanced English learning, the types and genres of academic communication in English. And a critical analysis of the literature on the research topic is given in order to provide the theoretical foundation for the feasibility of the project.

This stage includes 6 classroom sessions where students of the IT department perform preparatory (training) exercises to create the wiki site. It enables them to edit and add new content in English in the form of teamwork while interacting with each other, choosing the most interesting issues and topics that would be included in the project of both general and professional use. The students get acquainted with the existing educational sites, perform creative tasks and upload the results of common projects in the form of presentations on specific topics. Within the framework of Business Informatics, Program and Software Engineering training English scientific terms are to be learnt and it is necessary to summarize academic papers to acquire scientific style.

2. The purpose of the second stage – the methodological one – is the presentation to the students of the following issues:

- general scientific research methods;
- Bloom's taxonomy (Anderson et al., 2001);
- change of the teacher's role who motivates, provides certain techniques, checks the progress, teachers to apply acquired knowledge and skills, moderates, facilitates and leads the students;
- methods aimed at achieving a scientific result in a certain professional field;

- face-to-face classes and distance work when students present the project in the form of a slide show using a wide range of scientific methodology, which, in turn, helps improve the skills of written and spoken English language.

The project is prepared by students individually or in small groups (2–4 people). The preparation of such mini-presentations is of a creative nature, because the projects use illustrations (drawings, diagrams, charts, etc.) and extracts from scientific publications. This stage finishes up with a discussion of general scientific and narrow professional methods in the "free discussion" mode.

Stage 3 is reproductive. This stage is the longest, because it covers the blended learning scheme with various tools: (1) multimedia set, (2) LMS, (3) "wiki sites ", (4) SNS use, preparation of a scientific report in a foreign language. These are differences in written and oral speech in the conditions of academic communication", (4) "Presentation of the scientific report in the format of presentation. Making a presentation". For each topic, graduate students / trainees are given assignments to create an individual project and conduct classroom discussions. Firstly, they are presented with exercises of a lexical nature, speech clichés, collocations and figures of speech are discussed, tasks are given to create a theme-réma sequence of text (Bussmann, 1998). A meaningful construction of written speech should be based on the competent expression of the author's thoughts. Written and oral annotation helps trainees evaluate the effectiveness of the student's transfer of the content and information of the source text in English with a specific task structure. At the final stage, students prepare projects on the topics of scientific research and protect them in front of colleagues.

4. The scheme ends with a reflexive-evaluation stage, at which students evaluate their creative tasks performed by their colleagues, indicate the positive and negative aspects of the work. This stage includes remote assignments, when students write reviews, peer reviews on the papers, and then discuss the outcome of the projects.

Since the model implies blended learning, the training takes place both in the real and in the remote mode there are two stages correspond to the counseling function as well as advising on issues related to the project activity. At these stages, the teacher-consultant shares with students the types and methods of organizing the project activity, helps find ways to solve the problem (Gelisli, 2009). The students in cooperation with the teacher master the necessary reproductive skills for the creation of the project and expand their tools for creating projects using web technologies.

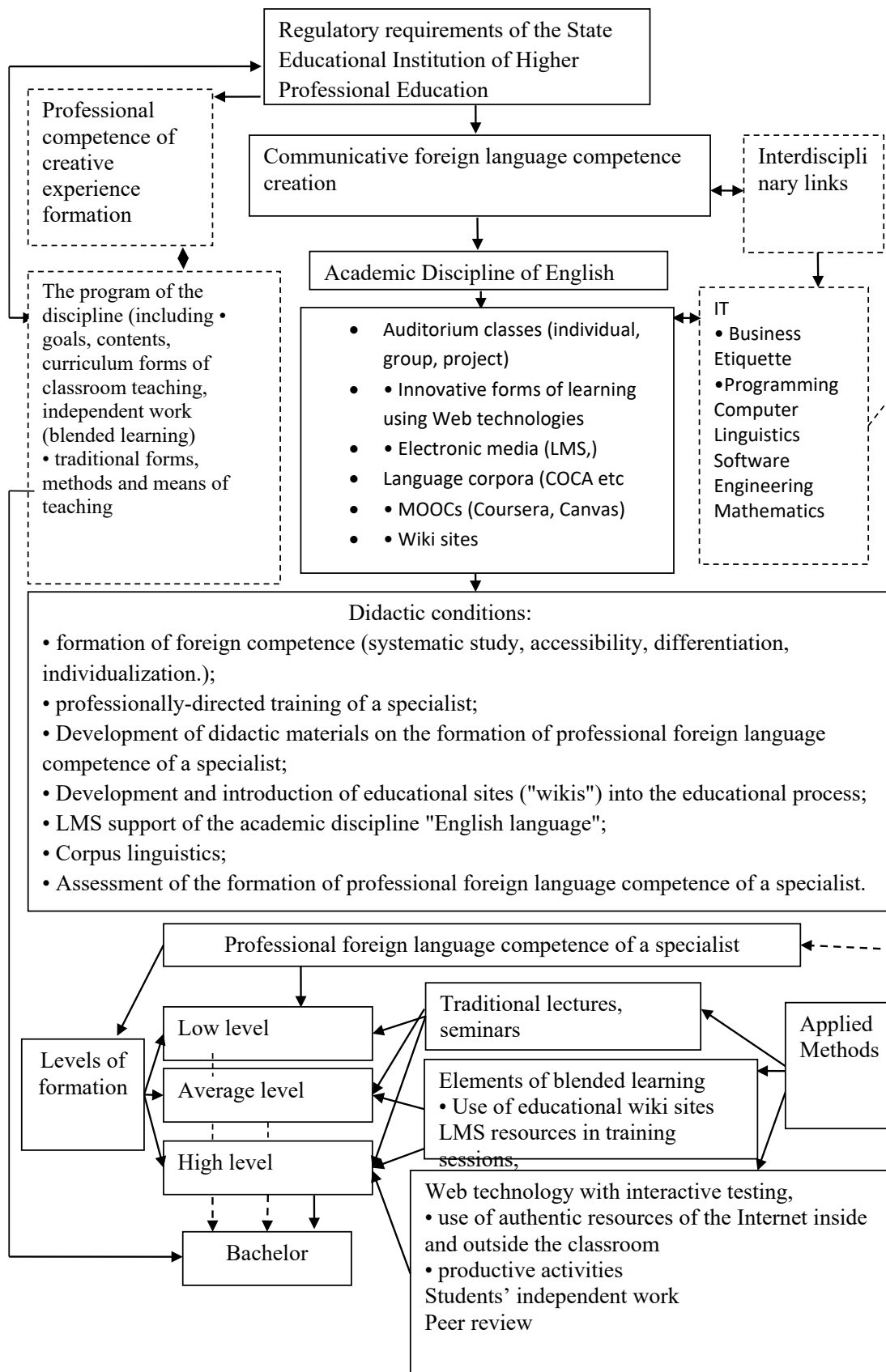


Figure 1. Educational Web based ELT model

6. Findings

All theoretical suppositions about the effectiveness and the need for using the proposed model in the educational process of the university were tested in the course of the experimental work during the common project of the National Research University of the Higher School of Economics (HSE) and Linguistic University after Dobrolubov in Nizhny Novgorod in 2017–2018, 2020–2021 academic years.

The first-year students of the Department of Informatics, Mathematics and Computer Science within the B2-C1 level of English and the fourth course of Business Informatics took part in the experimental wiki based project (n=100).

During the project, two topical issues for students were studied: IT in management on the basis of authentic articles from the magazine "Economist" in English ("Managing the Facebookers") and "Environmental Protection" on the basis of materials on the Eden Project (2018).

The future linguists were involved in learning Business English with assistance of the web-based model. The challenge was to replace traditional classes with distant ones without weakening the quality. The conference platforms such as Zoom, MsTeams, Skype were the means of virtual face-to-face communication.

Within the frameworks of the given experimental Wiki-based ELT activity, the platform for university cooperation on the basis of a wiki site (<https://sites.google.com/site/nnbridgetopenza>) was created where the students' essays were on the site so that the project participants from Nizhny Novgorod could evaluate their work, put their feedback, choose the best essay in their opinion.

In addition, students of both universities acted as administrators of the site authorized by the teacher's permission. The educational process was built not only in the logic of the academic discipline, but also in the logic of activity that had a personal meaning for the students, as individual approach increased their motivation. All the students were aware of the content of the teaching material, teaching methods and were given relative freedom of choice in the educational process, which was determined by the topics and the implementation of the goals, self-control and self-analysis.

7. Conclusion

The findings have proven the efficient use of the forwarded model as the focus was on reproductive skills in speaking when the articles summaries were shared and discussed with the peer audience. As during the work on the materials, students could exchange views with their peers from another department and even other cities, they provided critical reviewers of each other's works, error correction having analyzed their own and other people's mistakes and jointly found successful strategies in both speaking and writing.

The individual pace of work on the project ensured the output of each student to a higher level of development for her/ him. To learn the material and perform the exercises, a time limit was defined, and each student could choose the time and pace of the assignments in accordance with their level and preference. Less advanced students could perform tasks slower or repeatedly by listening to the same interview and watch the same video several times. As a result, many students performed tasks of increased complexity, which had been troublesome for them, that evidently confirms the increased level of English and boost of motivation.

Thus, the experimental integration of the wiki based model turned out to be beneficial while arranging effective teacher-to-teacher, student-to-teacher and student-to-student models of collaboration. The Wiki platform was successfully used to implement common projects aiming at enhancing English learning activities and acquiring lacking professional knowledge and expertise in Information technologies use.

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