

THE INTEGRATION OF DIGITAL EDUCATIONAL RESOURCES IN TRANSLATION CLASSES AT UNIVERSITY

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Abstract

The widespread digitalization of education has given impetus to the creation and integration of digital educational resources (DER) in many countries of the world. Digital educational resources improve the quality of educational process, form the information technology (IT) competence of students, teach them the skills of using and evaluating the validity and reliability of digital resources for professional needs. The proper use of DER enhances active learning, independent search, logical processing of information; it also contributes to the development of creativity and critical thinking.

The main goal of this paper is to show the integration process of digital educational resources in translation classes for university students. For this purpose, during the empirical stage of the research a digital educational resource named "Text Translation in the field of bioengineering" for students of Kazan University (Russia), majoring in Linguistics, has been created and integrated. The course has a modular architecture. Each unit consists of the following sections: topical vocabulary, texts for translation, reference information, additional texts for self-translation, extra materials for self-study. The course is supplemented by thematic video, achievement tests, news boards, forums and chats. Experimentally, we produced some game-based assignments using interactive H5P application. The course is deployed on the university e-platform, supported by LMS Moodle, which is rather popular within the Russian academic community.

The methodological framework of this research rests on comparative analysis of such theories as behaviorism, constructivism and connectivism. It is also based on communicative, collaborative and competence-based approaches. The results of the work can be used by teachers, educators and e-learners.

Keywords: university, students, digital educational resource (DER), integration, online learning, IT competence, critical thinking, translation classes.

1 INTRODUCTION

The widespread digitalization of education has given impetus to the creation and integration of digital educational resources (DER) in many countries of the world.

The creation of DER is defined as one of the main directions of informatization of all forms and levels of education in Russia. This process has been accelerated during the pandemic of 2020. The development of the information services industry in the education sector, including the production of DER and software and methodological support, along with the creation and development of telecommunication structures of individual educational institutions and the industry as a whole, education quality control systems forms the basis for the formation of the infrastructure for informatization of education [1].

A DER is understood as an information source containing graphic, text, digital, speech, music, video, photo and other information aimed at realizing the objectives of modern education [2]. In one digital educational resource, information (or information and reference) sources, tools for creating and processing information, and control elements can be allocated.

DERs are aimed at realizing the following goals: on the one hand, to improve the quality of educational process, on the other hand, to form the information technology (IT) competence of students, teach them the skills of using and evaluating the validity and reliability of digital resources for professional needs. The proper use of DER enhances active learning, independent search, logical processing of information as well as it contributes to the development of creativity and critical thinking.

Among the main affordances of DER we can name interactivity, adaptivity, feedback and choice [3]. Speaking about interactivity, the technology systematically responds to actions of the learner. For instance, some serious games immerse learners in virtual works through role-playing and interaction with a gaming community. Reading a book, listening to an audiotape, and viewing a film are not interactive technologies because these do not present new information in response to the actions of the learner.

As for adaptivity, we should note that technology presents information that is contingent on the behavior, knowledge, and characteristics of the learner. A technology can be interactive but not adaptive, as in a game that offers the users choices but does not alter the options in response to the users' choices or actions. Conversely, intelligent adaptive learning programs are designed to be adaptive and interactive, so that when learners use the software, it assesses and may respond selectively to every task-related action on the part of the learner, including giving right and wrong answers, length of time taken in making decisions, and the learner's individual decision-making strategies.

The technology gives feedback to the learner on the quality of the learner's performance, sometimes including how the quality could be improved. The feedback can range from a short message that a learner's input or response was correct or incorrect to an explanation of why the input was correct or incorrect. Task-relevant feedback can range from responses to short-term events that last a few seconds to long-term performance extending over a school semester.

The technology gives students options for what to learn and how to learn so they can regulate their own learning. For example, choice is low for an instruction-oriented technology that pushes an agenda with few options for learner exploration. Choice is high, for instance, when students explore the Internet to find answers to their personal questions.

The main goal of this paper is to show the integration process of digital educational resources in translation classes for university students. For these purposes, during the empirical stage of our research a DER named "Text Translation in the field of bioengineering" for students of Kazan University (Russia), majoring in Linguistics, has been created and integrated in translation classes.

2 METHODOLOGY

The methodology of the work is based on a comparative analysis of such theories as constructivism (L.S. Vygotsky, J. Dewey, J.S. Bruner, B. Bloom, etc) [4; 5], behaviorism (J.B. Watson, B.F. Skinner, E.L. Thorndike, I. Pavlov, etc) [6], and connectivism (G. Siemens, S. Downes, R. Kop) [7; 8] as well as on communicative, collaborative and competence-based approaches by Western and Russian scholars [5; 6; 7; 8]. Connectivism is a kind of learning theory that was created by George Siemens. It can also be understood as educational theory or view or global strategy. Connectivism was a core principle used for designing the first MOOCs (unlike the "modern" versions that come out of elite universities and rather represent in our opinion a propaganda purpose). G. Siemens proposes connectivism as a learning theory for the digital age, a successor to behaviorism, cognitivism and constructivism [8].

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3 RESULTS AND DISCUSSIONS

The main result of the study is the design and integration of the course "Text Translation in the field of bioengineering", intended for the third-year students, majoring in Linguistics on specialty "Translation and translation studies (English and second foreign languages)".

The students who have mastered the course must have such competence as the ability to format the translation text in a computer text editor. They must know the basic terms on the subject of translation.

They should be able to use dictionaries, both paper and electronic; use computer translators and edit the translation. They must have necessary background knowledge of the subject.

The students must demonstrate the ability and willingness to master the terminology when translating texts in the field of bioengineering; have a basic knowledge of biology, genetics and genetic engineering; compile thematic dictionaries for a particular section of bioengineering, view specialized literature.

Finally, they must demonstrate the ability and willingness to apply the acquired knowledge and skills in practice.

This discipline is included in the section "Disciplines of the main professional educational program 45.03.02 Linguistics (Translation and translation studies (English and second foreign languages))" and refers to optional disciplines. It is mastered by 3rd year students in the 6th semester.

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To implement the tasks successfully, it is necessary to consider 3 aspects of preparation and work with material: work with lexical material, work with grammar material and work with textual reading material. When working with lexical material, as well as when translating textual material, the students should pay attention to the polysemy of lexical units of the English language; therefore, when working with a dictionary, it is important from a set of meanings choose the one that corresponds to the specific context in which the given word occurs.

For a more accurate transfer of the meaning of the word, it is always necessary to use special professional terminology in the existing field of science or technology. It should be remembered that a literal translation of an article (the so-called "raw interlinear translation") leads, as a rule, to the difficulty of understanding the meaning of the work, and sometimes to its distortion. Such a translation is considered incompetent. To make a good translation, you need not only to know the language, but also to be a specialist in this field or to do it together with a specialist.

Before translating, it is necessary to read the entire article from beginning to end in order to understand its main content. As you read, you should note the most difficult places. Then you can start translating paragraphs sequentially, carefully analyzing each sentence. After the entire article has been parsed and translated in this way, they proceed to the literary finishing of the translation, checking the clarity and accuracy of the expressed thoughts. If it contains sentences that are not entirely clear, ponderous or ambiguous, which is especially unacceptable in a scientific article, then they are corrected in accordance with the rules of the language into which the translation is being made. It is necessary to check whether the translation reads well, whether there are heavy non-Russian phrases, annoying repetition of words like which, to, etc. The final stage of work on the translation is verification with the original. It establishes the absence of omissions and deviations from the original, which could have occurred in the process of literary editing.

When preparing for the test, the students need to refer to the previously studied material. To master the spelling form of a word, it is recommended to write it many times with the subsequent self-verification with the help of self-dictating. To achieve strong memorization, it is necessary from time to time to return to the words studied and repeat them yourself.

The DER "Text Translation in the field of bioengineering" involves the following themes:

- 1 Genetic Engineering Research
- 2 Ecology and man's health
- 3 Genetic Code and gene therapy.

Let us consider Unit 1 "Genetic Engineering Research" as an example.

It starts with reference material named "Terms and terminology" which contains information about words and word-combinations (word-groups) that belong to the terminological systems of science, technology, etc. These linguistic units are not used or even understood by people outside the particular specialty. Every field of science or activity has its specialized vocabulary. There is a special medical vocabulary, and similarly special terminologies for chemistry, physics, power engineering, economics, building construction, aviation, and many others. In this section the students also consider some controversial problems in modern linguistics concerned with terminology.

Having studied Topical vocabulary, the students are supposed to implement vocabulary tasks: filling the gaps, matching the words with their translations, finding the words with the opposite meaning.

Then, the students have to read and translate the text “The scope of genetic engineering” from English into Russian language. They complete the task by attaching their translation as a file (in Word or pdf format). They name the file: Task 1.1_Surname_Name_group number (for example, Task 1.1_Sidorov_Oleg_901). For this task they can get a maximum of 20 points. The deadline for completing the task is determined by the teacher.

Next task is to translate the text “GM Food” and attach the file in the same way.

Translation evaluation criteria are the following: Maximum points – 20.

- 1 Completeness of information transfer - 4 points (100% - 4 p., 75% - 3 p., 50% - 2 p., 25% - 1 p.).
- 2 Compliance with the norms of the Russian language (including spelling and punctuation) - 4 points (1 mistake - 0.2 points).
- 3 Lexical aspects of translation (selection of the correct equivalent of a polysemantic word; contextual correspondence; peculiarity of the translation of terms, proper names, realities; neologisms, "false friends of the translator", phraseological units) - 4 points (1 mistake - 0.2 points).
- 4 Grammatical aspects of translation (sentence structure, thematic division, causal relationships, temporal forms, etc.) - 4 points (1 mistake - 0.2 points).
- 5 Stylistic and pragmatic aspects of translation (style of presentation, transfer of functional and stylistic types of text; transfer of evaluative connotations; addition and reduction of information; transfer of the pragmatic orientation of the source text) - 4 points (1 mistake - 0.2 points).

There are also additional texts for self-translation, extra materials for self-study.

Finally, the students have to do a Test on translation of vocabulary studied in Unit 1. A forum and a list of literature to the unit come at the end of the section. Other units have similar structure. There are also Achievement Tests and Final Test.

As we have seen, the structure of the course is quite easy to understand. Following the instructions, students can implement all the tasks individually in the class or at home and the system checks and evaluates them online. If the task is done incorrectly, the student can implement it again. The number of attempts is set by the teacher. The teacher can also see a list of students' results and evaluate their work on the course.

The students of Kazan University have been successfully studying the DER for 4 months. Among the advantages of the course, they highlighted such benefits as easy access to learning, ability to self-modify course materials, building individual educational trajectories, multidisciplinary character of the educational content, and habitual Internet environment. Thus, the proper use of DER enhances active learning, independent search, logical processing of information as well as it contributes to the development of creativity and critical thinking [9; 10].

Considering the creation and integration of DER, we should mention constructivism, which is a theory about how people learn. This theory suggests that people create their own understanding and knowledge of the world through experiences and reflection on those experiences. When students encounter something new, they have to integrate it with previous ideas and experiences by connecting the new knowledge to something already known. It may mean the students are studying something completely new and different. Sometimes it will result in the student rejecting the ideas completely. Above all, the theory assumes that we are active creators of our own knowledge requiring students to ask questions, explore, and assess what is known or learned. Students are therefore creating their own understanding and knowledge of the world through their study choices [11].

Some modern researches state that there is a significant positive effect of the use of digital resources in teaching on the development of students' creative, theoretical thinking, as well as the formation of so-called operational thinking aimed at choosing optimal solutions [1]. A number of psychological studies point to the creation of opportunities for the effective formation of students' modular-reflective style of thinking when using the DER in the educational process.

Other modern scientists prove that it is the use of electronic educational resources in the educational process that allows the teacher to put into practice innovative ideas and directions of individualization and informatization of education, such as building individual educational trajectories by students, introducing the principles of a competence-based approach into the educational process, increasing the independent activity of students, etc [12].

Besides, digital technologies such as e-learning, online learning, or Web-based learning provide many advantages for distance learning [13; 14; 15]. Digital technology can support synchronous communication between instructors and students, such as participating in a live Webinar, using technology-based instruction in the classroom, or corresponding in a course chatroom (instructor and learners spatially separated but interacting in real time). It can also support asynchronous learning, in which the interactions between a human instructor and students are separated in time (and typically also by space), as when the instructor posts a video lecture or lesson on a course learning management system or Website [3].

4 CONCLUSION AND RECOMMENDATIONS

To conclude all that was mentioned above, we have identified and analyzed the most common features of digital electronic resources, their advantages and benefits and have showed the process of their integration in education process. During the empirical stage of our research a DER “Text Translation in the field of bioengineering” for students of Kazan University, majoring in Linguistics, has been designed and integrated.

The course is aimed at the formation of the competencies, consisting of the ability to format the translation text in a computer text editor; to master the terminology when translating texts in the field of bioengineering; have a basic knowledge of biology, genetics and genetic engineering; compile thematic dictionaries for a particular section of bioengineering.

The structure of the course is quite easy to understand. Following the instructions, students can implement all the tasks individually in the class or at home and the system checks and evaluates them online.

The students have been successfully studying the course for 4 months. Among the advantages of the course, they highlighted such benefits as easy access to learning, multidisciplinary character of the educational content, ability to self-modify course materials and habitual Internet environment.

The results of the work may be interesting to teachers, educators and e-learners who support innovations and feel free to create, collaborate, and communicate both online and offline.

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REFERENCES

- [1] “Pedagogical aspects of the formation of collections of digital educational resources”, Creation and use of digital educational resources. Retrieved from <https://textarchive.ru/c-2288937-pall.html> (12.01.2022).
- [2] T.V. Zyazina, “Experience of using digital educational resources in the educational process of training future life safety teachers”, Digital educational resources in the educational process of the pedagogical institute and school: abstracts of the II regional scientific and practical conference, Voronezh, 2008.
- [3] “Key affordances of learning technologies”, How People Learn II: Learners, Contexts, and Cultures, 2018. Retrieved from <https://www.nap.edu/read/24783/chapter/10#164> (07.01.2022).
- [4] P.C. Honebein, "Seven goals for the design of constructivist learning environments", Constructivist learning environments: Case studies in instructional design, pp. 11-24, 1996.
- [5] S.O. Bada, "Constructivism Learning Theory: A Paradigm for Teaching and Learning", IOSR Journal of Research & Method in Education (IOSR-JRME), 5(6/1), pp. 66-70, 2015.
- [6] W. Tomic, "Behaviorism and Cognitivism in Education", Psychology: A Journal of Human Behavior, 30, pp. 38-46, 1993.
- [7] F. Bell, “Connectivism: a network theory for teaching and learning in a connected world”. Retrieved from <http://usir.salford.ac.uk/id/eprint/2569/1/ConnectivismEdDev.pdf> (15.12.2021).
- [8] G. Siemens, “Connectivism: A learning theory for the digital age”. International Journal of Instructional Technology and Distance Learning, 2(1), 3-10. Retrieved from: http://www.itdl.org/Journal/Jan_05/article01.htm (28.11.2021).

- [9] "Open Educational Resources and Change in Higher Education: Reflections from Practice", Jenny Glennie, Ken Harley, Neil Butcher and Trudi van Wyk, Editors, published by Commonwealth of Learning, Vancouver, 2012.
- [10] N. Butcher, "A basic guide to open educational resources (OER)", A. Kanwar & S. Uvalirć-Trumbirć (Eds.). Vancouver and Paris: COL and UNESCO. 2011. Retrieved from <http://www.col.org/oerbasicguide> (20.11.21).
- [11] A. Blagoveshchenskaya, I. Ainoutdinova, A. Nurutdinova, E. Dmitrieva, "Interdisciplinary approach to language studies in training masters at universities in Russia", INTED2020 Proceedings: The 14th annual International Technology, Education and Development Conference, Valencia, Spain, 2020, pp. 9028-9033.
- [12] N.I. Isupova, T.N. Suvorova, "The use of electronic educational resources for the implementation of active and interactive forms and methods of teaching", Scientific-methodical electronic journal "Concept", 2014, Vol. 26, pp. 136-140.
- [13] A. Blagoveshchenskaya, I. Ainoutdinova, A. Nurutdinova, E. Dmitrieva "The experience in creating and implementing digital educational resources at universities during the pandemic", INTED2021 Proceedings: 15th International Technology, Education and Development Conference (8-9 March, 2021), Valencia, Spain, pp. 6897-6902.
- [14] T. Bukina, L. Malakhova, E. Novgorodova, E. Nelyubina Content of digital educational resources and student involvement in the process of distance learning, INTED2021 Proceedings: The 15th annual International Technology, Education and Development Conference (8-9. March, 2021), Valencia, Spain, pp. 2815-2821.
- [15] G.Nurtdinova, M. Vinnikova, G. Fassahova, A. Yarhamova "Teaching translation techniques under lockdown", INTED2021 Proceedings, 15th International Technology, Education and Development Conference, pp.3950-3953.