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DEVELOPMENT OF BELL ONLINE COURSES: PROBLEMS AND SOLUTIONS

Recently, the world has faced with the need for new interactive educational technologies and inclusive education implemented through the technologies of distance and blended learning. This is especially relevant for the programs of additional education for adults which contribute to the active inclusion of various groups of citizens in to the public life.

International programs and projects contribute to the widespread dissemination of new educational technologies in the Republic of Belarus and educational programs of non-formal additional education for adults as well [1]. Among them, there are educational programs of the European Union, US Exchange Programs and other programs for our country citizens to participate.

Thus, Life Long Learning principles are becoming more and more relevant in the Republic of Belarus. The interest of young people and adults in training courses is increasing because these courses are aimed at developing skills and competencies that are currently in demand. Activities to support entrepreneurship and social business development are being developed.

In particular, new contacts and partnership with European higher education institutions were established due to the international project of EU Program ERASMUS+ CBHE, Enhancement of Lifelong Learning in Belarus/BELL.

There are the following participants: Rezekne Academy of Technologies (Latvia) — project grant holder; Linnaeus University (Sweden); The University of Cádiz (Spain); The Open University (UK). Moreover, Life Long Learning centers have been created in Belarusian universities; network interaction between Belarusian universities is developing to address the issues of Life Long learning. As a result of the internships for teachers at the universities of the BELL project consortium, modern distance learning technologies have been introduced in regional universities of the Republic of Belarus, and training courses have been developed and implemented into practice. All these activities are aimed at improvement of the citizens level of knowledge in various aspects of social life and economy.

In the framework of ERASMUS+ project BELL in 2019, 1296 students were enrolled for 5 new on-line (blended) LLL study courses in English, IT, Energy Saving, Entrepreneurship, Financial & Law Literacy to the general public. 5 regions of the Republic of Belarus are represented in the project.

Three main problems that we solve through the development of BELL online courses, are as follows:

- 1) nowadays in the Republic of Belarus there is a lack of available distance courses for the population that can be aimed at solving social problems of society and at developing skills and competencies that are in demand for life. The problem of the availability of educational programs for non-formal continuing education has become especially evident in the context of the global outbreak of COVID-19;
- 2) low level of students' activity and motivation during distance learning courses which is reflected in a low percentage of successful completion of the courses. The percentage of students who successfully completed distance courses is, in general, no more than 10–30% of those enrolled for training courses;
- 3) the problem of ensuring sustainable interest and demand for training courses for the population and the matter of the

inclusion of educational programs of non-formal additional education as well. This situation is also closely connected with insufficient interest and involvement of local stakeholders (such as universities, government bodies, businesses, NGOs, local communities) in the training processes of the population and low level of support for natural sciences in society [2].

1. The growth of utility bills	The course is practice-oriented and provides students with assignments to evaluate the reduction of energy consumption and utility bills for their households.
2. Environmental problem, global warming	Some sections of the course are devoted to the dissemination of the principles and ideas of "green energy".
3. No free LLL courses for Belarusians. COVID-19	The course is available to everyone in the framework of the ERASMUS+ BELL project.
4. Low activity and motivation of students	The course applies innovative approaches and tools, based on the experience of universities in the European educational space, the Erasmus+ BELL project consortium.

Figure 1 — *Problems and ways of solving them in the design of the LLL course “Household Energy Saving”*

To solve the first problem, the content of the course “Entrepreneurship and Financial Literacy” was expanded with the section “Social Entrepreneurship”. The Social Entrepreneurship section is based on the results of the Community Connections USAID internship. This section makes it possible to get the students acquainted with modern trends in entrepreneurship. With the example of the social enterprise PONYRIDE (Detroit, USA, <https://www.ponyride.org>), in this distance course students can have a look at creative business ideas of social entrepreneurship in the USA and other developed countries as well.

We will consider the directions for solving above-mentioned problems using the example of the course “Household Energy Saving” (Figure 1).

To increase the activity and motivation of students of distance learning courses, special interactive tools and Internet technologies, especially resources for the digital content development can be used. These

technologies are actively used in European universities. As for interactive educational tools, in modern education they are actively used primarily to involve students to the educational process.

At The University of Cádiz our teachers were presented with the tools for digitalization and gamification of the educational process. As a result, some of these tools have already been introduced into the work with listeners and university students, that helped to increase the interest in learning. Such resources as eXe learning, H5p, Hot Potatoes, Socrative, Active Presenter, Kahoot, Menti and others can be recommended.

One more direction for improving distance courses is the usage of the educational content design approaches, which are primarily focused on the student. Analyzing the practice of this approach implementation during the development of distance courses BELL, the experience and approaches used at The Open University can be recommended.

Thus, while designing distance courses, it is advisable to analyze the profile of the student in order to get an idea of his needs. Let's consider the main questions that the teacher should ask himself while designing a course:

- Who is supposed to be my potential student?
- What's the age of the student? What professional background does this student have?
- What are the strengths and weaknesses of the student?
- What can motivate the student to learn?
- What difficulties can he/she face with?
- What style of learning does my student prefer?

One more important thing is to make the results of the learning efficient and evident:

- What should the student do to successfully complete the course?
- What will the student be able to do after the course completion?

As a result, the motivation of the student is learning and gaining knowledge, not just getting a good mark.

In addition, let us note the experience in designing training courses at Linnaeus University. For the clarity of the educational material

presentation, methods of studying and subsequent solution of complex or tricky problems are used. These methods are aimed at detailed presentation of the problems (Rich Pictures), as well as a detailed description of the structure of the system (System Maps). The use of the Rich Pictures methodology made it possible to present students with an interactive, simple and understandable curriculum for a blended LLL course “Household Energy Saving” (Figure 3).



Figure 2 —
E-Quiz of the Energy Saving course

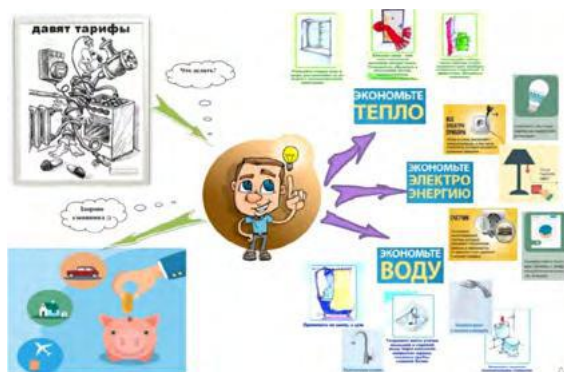


Figure 3 —
Interactive Course-curriculum

It should be noted that the design of a distance course on household energy saving using electronic interactive educational tools and a student-centered approach has allowed to achieve good results. In particular, 56% of students have successfully completed the entire course. Graduates of the course “Household energy saving” presented the real results of reducing utility bills, and also outlined their intentions to further apply the acquired skills.

Speaking about the development of inclusive additional education for adults in our country and ensuring sustainable interest and demand for training courses for the population, it is advisable to involve a wide range of stakeholders in these processes [3–4]. To develop this area, we offer the following post-project sustainability ideas (Figure 4).



Figure 4 — Post-project sustainability ideas

Thus, for the further development of educational activities and improvement of distance education, Belarusian universities are advised to continue the implementation of the best practices of universities in developed countries, to intensify networking and to promote the principles and ideas of Life Long Learning, to actively involve government bodies, business, NGOs, local communities in these processes.

LIST OF REFERENCES

1. Kalesnik, Y., Uzunoz, F.S. (2019). *Analysis of the best practices of universities in European space for the development of educational activities of Belarusian universities*. Problems of modern education in a technical university: Materials of the VI International Scientific Conference, Gomel, pp. 11–20.
2. Халецкий, В. (2014). Особенности восприятия химической науки студентами-первокурсниками инженерных специальностей. Естественно-научное образование: время перемен. Москва, МГУ, с. 50–62.
3. Galley, R., Pavlysh, E., Kalesnik, Y. (2020). CBHE Project "Enhancement of Lifelong Learning in Belarus". EDEN, 2020. Annual Conference. Timisoara, Romania.
4. Kalesnik, Y., Kleiman, V., Vasicheva, V. (2020). *Directions for improving the quality of education in Belarusian universities (sociological analysis)*. Geopolitical, Social Security and Freedom Journal, vol. 3, issue 1, pp. 39–50.

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