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Chapter

# The Implementation of Best Practices of International Projects as the Way of Enhancement of Higher and Business Education in Belarus

*Yury Kalesnik and Valentina Vasicheva*

## Abstract

The development of education around the world is facilitated by the exchange of experience and interaction between education providers from different countries and regions. International programs and projects have become one of the drivers to improve the quality of education, the development of information and communication educational technologies, as well as the dissemination of innovative educational programs at Belarusian universities. Among them, there are the projects of the European Union ERASMUS+ CBHE program, as well as projects and exchange programs of the United States. In this publication, the authors share the experience of implementation of the best practices at universities in the European Education Area (Sweden, Britain, Germany, Italy, Spain, Latvia, Turkey) and the results of the United States experience application, which enabled the improvement of the educational process at the Sukhoi State Technical University of Gomel (Belarus). Also, it is shown how the implementation of the Detroit experience gained at the international internship contributed to the development of ties between Belarusian communities, including formation of inclusive business education and the development of skills for employment and social entrepreneurship of people in Belarus.

**Keywords:** international experience, lifelong learning, distance learning, e-learning resources, learning design, active learning, inclusive additional education, energy saving, successful employment, social business, network partnership

## 1. Introduction

New opportunities for the development of education in the Republic of Belarus are provided by international programs and projects [1]. Among them are the Programs of the United States of America, the European Union and others, that give the opportunity to the participating teachers, researchers, higher education institutions' leader to actively implement the gained experience in their countries.

In the context of the global informatization of society, when the world is facing a growing need for inclusive education, the development of interactive educational technologies, the dissemination of information on the experience of implementing the best local, and foreign practices seem to be an urgent task.

Participation in international programs and projects allows the education providers to establish partnership and friendly relations both with foreign colleagues and with colleagues from your own country. The development of such communication leads not only to the acquisition of new knowledge, but also to professional and cultural exchange and mutual development.

By participating in international projects, one can develop the principles and ideas of lifelong learning and implement the main results of the development of the educational process not only in the system of higher education, but also in the system of business education in Belarus.

The involved institutions strive to enhance the principles and ideas of non-formal education, to make it accessible to all people, including socially vulnerable groups.

Thus, in recent years, the principles of Lifelong Learning have become more and more relevant in the Republic of Belarus. There is a growing interest among young people and adults in trainings and courses that are aimed at solving specific problems and developing skills and competencies that are currently in demand. For example, in Belarus, there is a need to support employment processes and development of social business, to provide information support for entrepreneurship, enhancement the pedagogical skills, and competencies of teachers, especially those of technical universities, etc.

Valuable experience has been gained through a long-term partnership with the **Linnaeus University (LNU, Sweden)** that is the grant-holder for multiple international projects. Among others, the best practices and bright examples from the project manager from this university, **Valentina Vasicheva**, are described by the authors in this chapter.

Presenting his history of participation in projects and implementation of the experience gained, while having more than 20 years of experience at the **Sukhoi State Technical University of Gomel (GSTU, Belarus)** as a lecturer, researcher and manager, **Yury Kalesnik (GSTU) and Valentina Vasicheva (LNU)** offer directions for cooperation with professionals from all over the world.



## **2. Enhancement of lifelong learning in Belarus through Erasmus+ BELL Project**

The international project of the European Union Program ERASMUS+ CBHE "Enhancement of Lifelong Learning in Belarus/BELL" has contributed to the achievement of good results in the development of the Lifelong Learning concept. The project

is aimed at the joint development and implementation of training courses on topics, which are in demand among the population [2].



The development of distance courses was organized on the basis of advanced training institutes of six participating regional universities located in five regions of the Republic of Belarus.

In the course of the project, the staff involved in the project implementation, established new contacts and partnerships with Belarusian regional universities, such as Polotsk State University (PSU, Polotsk, Vitebsk region), Yanka Kupala State University of Grodno (YKSUG, Grodno), Belarusian State Agricultural Academy (BSAA, Gorki, Mogilev region), Brest State Technical University (BrSTU, Brest), Vitebsk State University named after P.M. Masherov (VSU, Vitebsk), as well as the universities in the European educational space: Rezekne Academy of Technologies (RTA, Latvia), Linnaeus University (Sweden); The University of Cádiz (Spain), The Open University (UK). The Belarusian teachers, researchers, and administrators have studied and adopted the experience of partners based on the project objectives.

It is worth noting the high level of integration of the educational process in Rezekne Academy of Technologies (RTA) in Latvia, the BELL project coordinator, with the production processes of the real sector economy of Latvia and the countries of the European Union. Within the framework of academic disciplines, course, and diploma projects, RTA students develop their simple production lines, design and construct industrial robots, study 3D printing and laser material processing technologies, etc. Most courses are conducted in English and this fact increases the competitiveness of academy graduates in the labor market in the global EU space. The competitiveness of RTA educational programs is also facilitated by the widespread use of online learning and blended learning. Much attention is paid to the digitalization of educational programs and the development of digital competencies of teachers [3]. The academy uses MOODLE educational web platform. The teachers of the academy develop educational materials of a new generation for students of both full-time and part-time forms of education. Among the main aspects RTA training materials development, we note the following: the presence of original photographs, plagiarism ban, the emphasis on the most important points of the lecture, the absence of "noise," the use of various presentation design elements (font, color, sound, animation).



In general, the BELL project contributed to the significant development of distance education in Belarus, primarily to the adult education. Thanks to the project, 6 continuing education centers have been created at regional Belarusian universities. In addition to that, network interaction of Belarusian regional universities aimed at solving issues of continuous education is still developing. As a result of teacher's

internships at European universities-members of the BELL project consortium, modern distance learning technologies have been introduced at regional universities of the Republic of Belarus. University subject alliances have developed and implemented distance learning courses for the population on the following actual topics: English language, Information security, Legal literacy, Entrepreneurship and financial literacy, Energy and resource saving in everyday life.

Each Belarusian university was a member of a subject alliance and was responsible for the development of a certain course. Sukhoi State Technical University of Gomel participated in the development of all distance courses of the BELL project, coordinated the work of the subject alliance on the course "Energy and resource saving in everyday life," as well as the development of the course module on entrepreneurship.

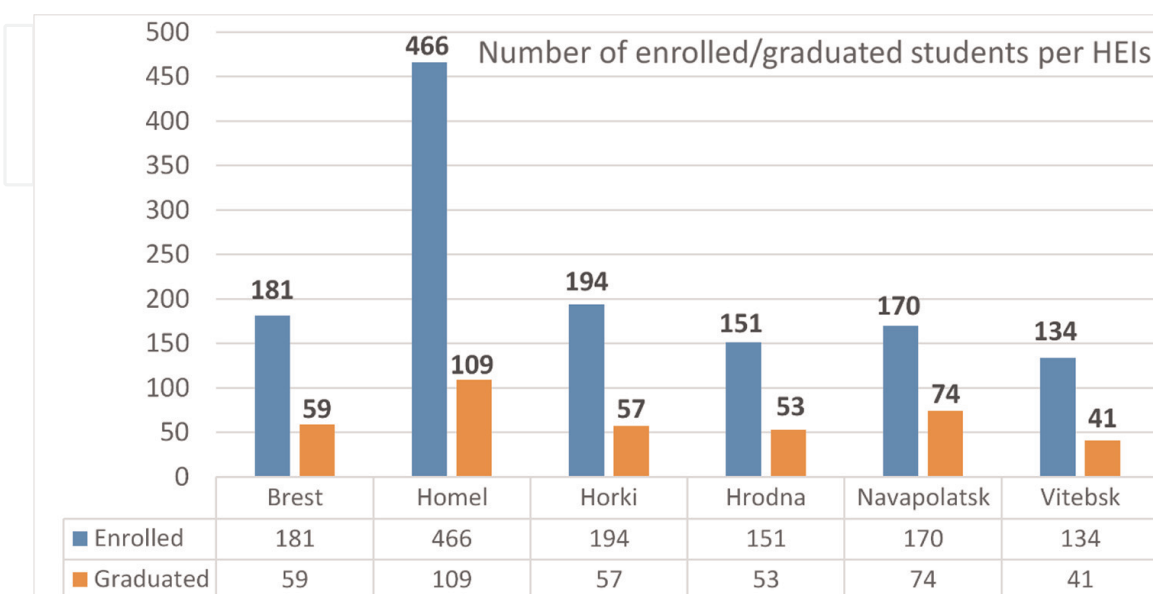
These courses were held for the population of Belarus for free. During 2019–2020, more than 2,600 residents of 5 regions of the country registered for the courses, more than 700 successfully completed training and received certificates from the international BELL project. The European partners took an active part in the monitoring to improve the developed courses. The project experience was analyzed, conclusions were drawn and the proposals for future work were worked out [4].

The practice of implementing online courses of the BELL project revealed a number of problems in conducting distance learning process. The 3 main problems that we solve through the development of BELL online courses, are as follows [5]:

**Problem # 1:** Currently, in Belarus, there is a lack of accessible distance courses for the population, which would be aimed at solving social problems of society, as well as at developing skills and competencies that are in demand for life. The problem of accessibility of educational programs of non-formal additional education was especially evident in the context of the global outbreak of COVID-19;

**Problem #2:** low activity and motivation of students of distance learning courses, which is expressed in a low percentage of successful completion of such courses (**Figure 1**).

According to the QA research after the 1st piloting of the BELL project distance courses, the percent of students who managed to complete the whole course varies from 20% to 40% of all enrolled participants.



**Figure 1.**  
Number of enrolled/graduated students per HEIs.



**Problem #3:** establishing continual interest and demand for training courses among the target groups is another problem, along with the inclusion of educational programs in the framework of additional education. This can also be related to the absence of local stakeholders' involvement. Unfortunately, universities, government bodies, businesses, NGOs, and local communities are not that interested in the lifelong learning processes of the population as they expected to be.

The first problem was solved with the introduction of the section "**Social entrepreneurship**" into the "Entrepreneurship and financial literacy" course. This section was developed on the basis of an USAID Community Connections program internship, which made it possible to introduce the students with the notion of modern trends in entrepreneurial activity. With taking as an example, social enterprise PONYRIDE (Detroit, USA, <https://www.ponyride.org/>) students take a look at the creative business ideas of social entrepreneurship in the USA, and other developed countries.



**Ponyride**

The information about the experience of participating in the U.S. programs is given further in this chapter (see Part 3: Section 4).

The directions for solving problems would be also considered by using the example of the course "**Energy saving in everyday life.**" The course is about **Energy and Resource Saving in Everyday Life as a Direction of Reducing Utility Bills**. The motto of the course is "**If you want to reduce your utility bills, ask us how to do it!**".

Thus, the course is aimed at solving actual problems (**Figure 2**).

A summary of the course content is presented (**Table 1**).

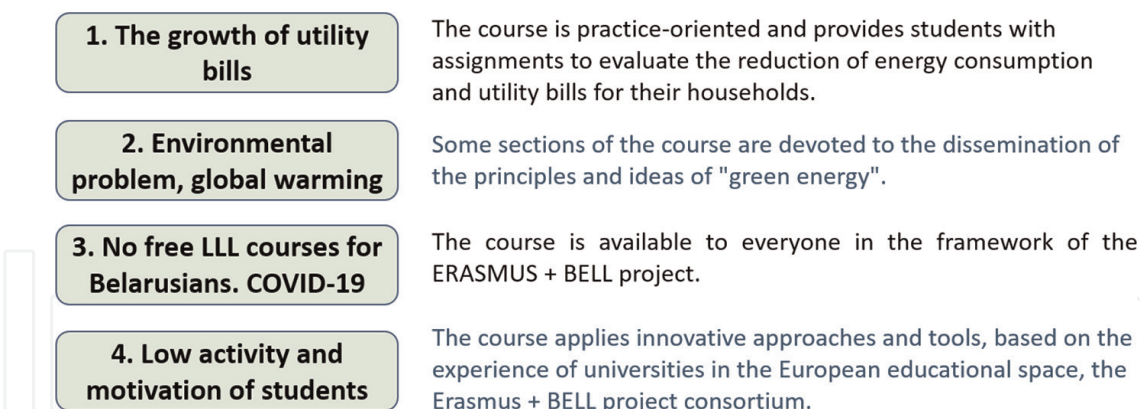
At Sukhoi State Technical University of Gomel, just as in, virtually, all Belarusian universities, distance courses are also being introduced. Some specialties have been transferred to distance learning.

At the same time, as the practice of the BELL project has shown, special interactive tools and Internet technologies make it possible to improve distance learning and blended learning courses, especially digital content development resources that are actively used in European universities. As for interactive educational Internet resources, they are actively used in modern education, first of all, to involve students in the educational process, contributing to the solution of problem # 2.

So, at The University of Cádiz (Spain), the involved teachers were presented with tools for digitalization and gamification of the educational process. As a result, some of these are being introduced into the practice of working with students of the university, increasing interest in learning.

According to gained experience, the use of the following tools is recommended:





**Figure 2.**  
Essential problems covered by the course "Energy saving in everyday life."

<b>Topics of the course:</b>		
Part 1. Basic concepts and definitions of energy saving. Energy and resource saving actuality.		
Part 2. The structure of household consumption of energy resources.		
Part 3. Efficient tendencies of domestic energy and resource saving (for apartments and private households).		
Part 4. Non-traditional sources of domestic energy supply (for apartments and private houses).		
Part 5. Managing energy saving in everyday life: how to pay less for resources.		
<b>Total course amount in 90 hours:</b>		
40 hours of lectures (theory)	40 hours of practical classes (practical tasks)	10 hours of workshops
<b>Learning outcomes:</b>		
Skills acquired	Knowledge acquired	Competences acquired
<ul style="list-style-type: none"> <li>• Utility payment structure evaluation;</li> <li>• Balancing energy consumption;</li> <li>• Development of specific measures to reduce domestic consumption of water, electricity, heat, gas;</li> <li>• Development of recommendations for reducing utility bills.</li> </ul>	<ul style="list-style-type: none"> <li>• What resources we consume, what and how much we pay for;</li> <li>• How to reduce resource consumption without compromising home comfort;</li> <li>• What innovative ideas can be implemented to save the environment and provide yourself with green energy;</li> <li>• How to pay less for resources.</li> </ul>	<ul style="list-style-type: none"> <li>• Why is energy saving relevant for the whole world;</li> <li>• What measures can reduce the payment for the consumption of water, electricity, heat, gas;</li> <li>• What is "green energy" and how to use it in the household;</li> <li>• What are electricity rates and what we pay for;</li> <li>• How does the daily electricity schedule affect your electric bill.</li> </ul>

**Table 1.**  
Fragment of the training course passport "Household Energy Saving."

1. **eXe learning**—XHTML and HTML5 editor for e-learning materials. It is a tool for designing, developing and publishing educational and methodological Web materials without the need to learn HTML or complex Web development applications. It allows to create easily navigable web pages including text, images, interactive activities, image galleries or multimedia clips.



2. **H5P**—a simple online constructor for creating interactive content. Provides the ability to create more than 20 different interactivities: exercises, games, quizzes, videos, presentations, interactive posters, collages, etc.



3. **Hot Potatoes**—a program that provides teachers with the opportunity to independently create interactive tasks and tests for control and self-control. With the help of the program, a teacher can create 5 types of exercises and tests in various disciplines.



4. **Socrative**—an online resource that is designed to organize and use the voting system via any gadgets and computers that can work with questionnaires.



5. **Active Presenter**—program for creating demonstration presentations or training videos. It allows the teacher to record all the actions on the computer screen and edit the recorded video.



6. **Kahoot and Menti** are gaming learning platforms used as educational technology. Educational games, the so-called "Kahoots" are quizzes with several answers to choose from. These resources can be accessed through a web browser and have become popular among teachers in many countries.



By the way, using the Active Presenter program, we have developed short video tutorials in Russian language on the use of educational Internet resources.



The experience of the practical use of these tools at the university has shown that interactive and gaming teaching methods are very effective and can be used both with students and listeners of educational programs for additional adult education.

Another tool for improving educational activities is a practical and student-centered approach to the design of educational and program documentation.

European universities widely use approaches aimed at individualization of the learning process, focused primarily on the student. These approaches are already used at the stage of designing educational processes and programs, as well as while the preparation of educational and program and educational and methodological documentation.

Analyzing the practice of implementing a student-centered approach at our university, we can also recommend the approaches used at The Open University (UK).



The Open University is a British educational institution founded in 1969. The goal is to provide an opportunity to get an education for people who want to study in a place and time convenient for them. At the moment, more than 150 thousand students study there. It is the largest university in the UK and one of the largest in the world.

The Open University widely practices distance learning. While designing distance courses, the Open University takes an interesting approach to curriculum development and learning design, deeply analyzes the profile of the student in order to get an idea of his needs [6–8].

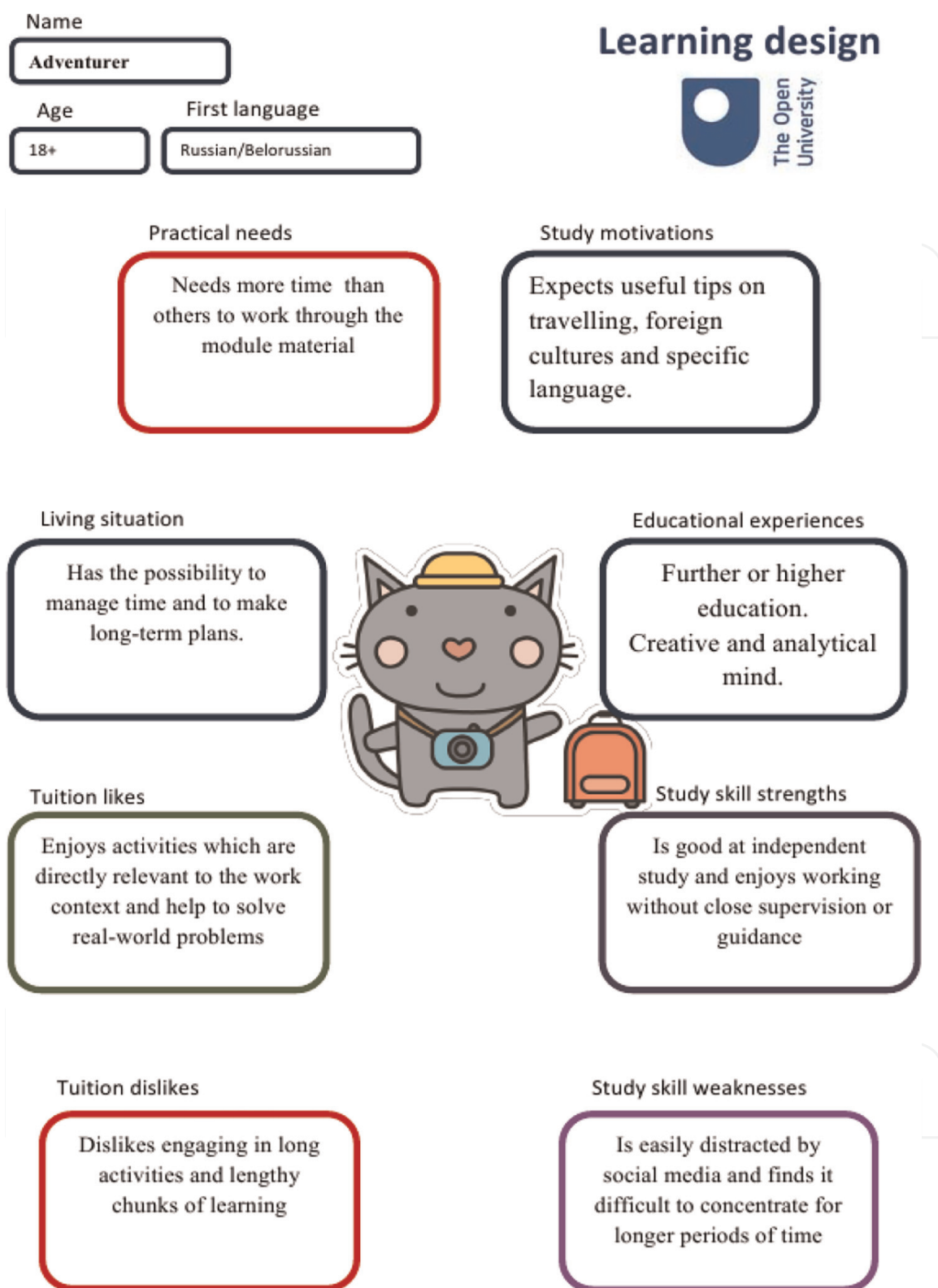
When it comes to the design of distance courses, it is advisable to analyze the student's profile in order to get an idea of student's needs (**Figure 3**).

Using the example of the English language course "Travelling" (author—Iryna Zaitsava, teacher at LifeLong Learning Institute at Sukhoi State Technical University of Gomel), let us consider the main questions that a teacher should ask himself while designing a course:

- Who do I see as my potential student?
- How old is this person?
- What professional experience does he have?
- What strengths and weaknesses does he have?
- What motivation contributes to his desire to learn?
- What difficulties can he experience while learning?
- What learning style does my student like and what should be avoided?

Also, it is important to make the student understand effective results of learning:

- What does he have to do to successfully complete the course?
- What will he be able to do at the end of the course?



**Figure 3.**  
Student profile for English language course "Travelling."

Asking yourself such questions while designing a course, makes it easier for the teacher to decide on the choice of the subject of the material and its level, helps to understand the pace of work and the intensity of the program, the need to include interactive techniques in the course.

Let us take as an example a potential student of the Traveling course. This person is interested in travelling and getting to know the culture of different countries. He is energetic, enthusiastic, likes to get information quickly and is often distracted. In order to attract the attention of such students to the course and not let them get bored, it was decided to diversify the tasks with interactive ones (**Figure 4**).

While developing the module for evaluating learning outcomes, in the course on energy saving, the students were asked not only to complete practical tasks and answer test questions, but also to present the results of the implementation of specific activities that led to a decrease in utility bills.

Along with others, we admit good experience in designing training courses at **Linnaeus University LNU** (Sweden). Currently, more than 35,000 students' study at the university, where distance learning technologies are well developed, active learning methods are widely used.

In order to visualize the presentation of educational materials and explain to students the objectives of learning at LNU, we were shown how the methods of studying and subsequently solving complex or vague problems are applied, by presenting them in detail (**Rich Pictures**), as well as a detailed description of the structure of the system (**System Maps**), which consists of definition, association and ratio of components.

The use of the Rich Pictures methodology at GSTU university made it possible to present the students with an interactive, simple and understandable structure of the curriculum of the distance course "Energy saving in everyday life" By clicking on a specific picture icon, the student goes to the corresponding section of the course (**Figure 5**). Also, the course contains e-quizzes in Kahoot (**Figure 6**).

For example, if students are interested in the topic of saving water, then by clicking on the relevant picture on **Figure 5**, they get to the page with necessary educational materials, including theoretical information, practical recommendations, materials for monitoring and assessing knowledge, as well as a short video lesson on this topic of the distance course, which shows the effectiveness and gives recommendations for the use of aerators (**Figure 7**).

The use of the tools shown above in the Household Energy Saving course increased the rate of students who successfully completed the course to 56.9% (**Table 2**).

Speaking about the development of inclusive additional education in Belarus, ensuring sustainable interest and demand for distance learning courses for the population, it is advisable to involve a wide range of stakeholders in these processes.

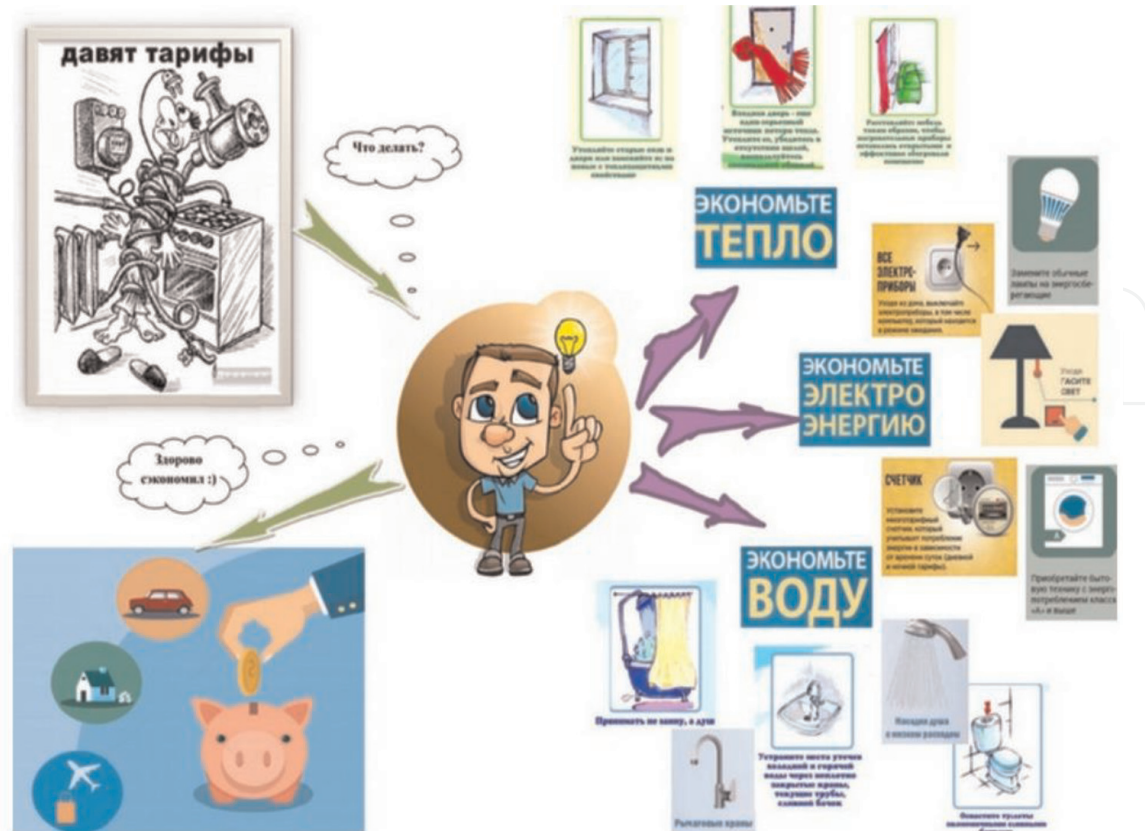
For the development of distance learning at universities, the following post-project sustainability ideas were suggested by partners from VSU [2] (**Figure 8**).

Also, we are interested in establishing new contacts and networking with professionals from all over the world.

Among the significant results of the BELL project, we should also pay attention to the fact that for the first time in Belarus it was possible to ensure the functioning of



**Figure 4.**  
*Kahoot game on Belarus symbols and Mentimeter Questionnaire on travelling.*



**Figure 5.**  
 Interactive course-curriculum “Energy saving in everyday life.”

the interuniversity network of continuing education (International Learning Network) based on distance learning technologies and Bologna tools for the development of the regional labor market.

### 3. University teaching and learning enhancement through Erasmus+ UniTeLE Project

The experience of European universities shows that students need to be actively involved in the learning process. Therefore, speaking about approaches to conducting training sessions, one should pay attention, first of all, to interactive educational technologies and widely used active teaching methods.

Thus, the most important areas for improving the quality of education in Belarusian universities are as follows: the development of a system of advanced training for teaching staff, assessment of the quality of teaching and learning. In addition to that, it is advisable to train teachers in modern interactive methods, educational technologies, etc.

The European Union Program ERASMUS+ project “University Teaching and Learning Enhancement/UniTeLE” is dedicated to solving this problem and the team of our university also actively participated in it







**Figure 6.**  
*E-Quiz of the course.*

The members of the UniTeLE consortium are Linnaeus University (project coordinator, Sweden), University of Genoa (Italy), Heidelberg University of Education (Germany), Nevsehir Haci Bektas Veli University (Turkey) and the following Belarussian universities: Belarussian State University (BSU, Minsk), Polotsk State University (PSU, Polotsk, Vitebsk region), Sukhoi State Technical University of Gomel

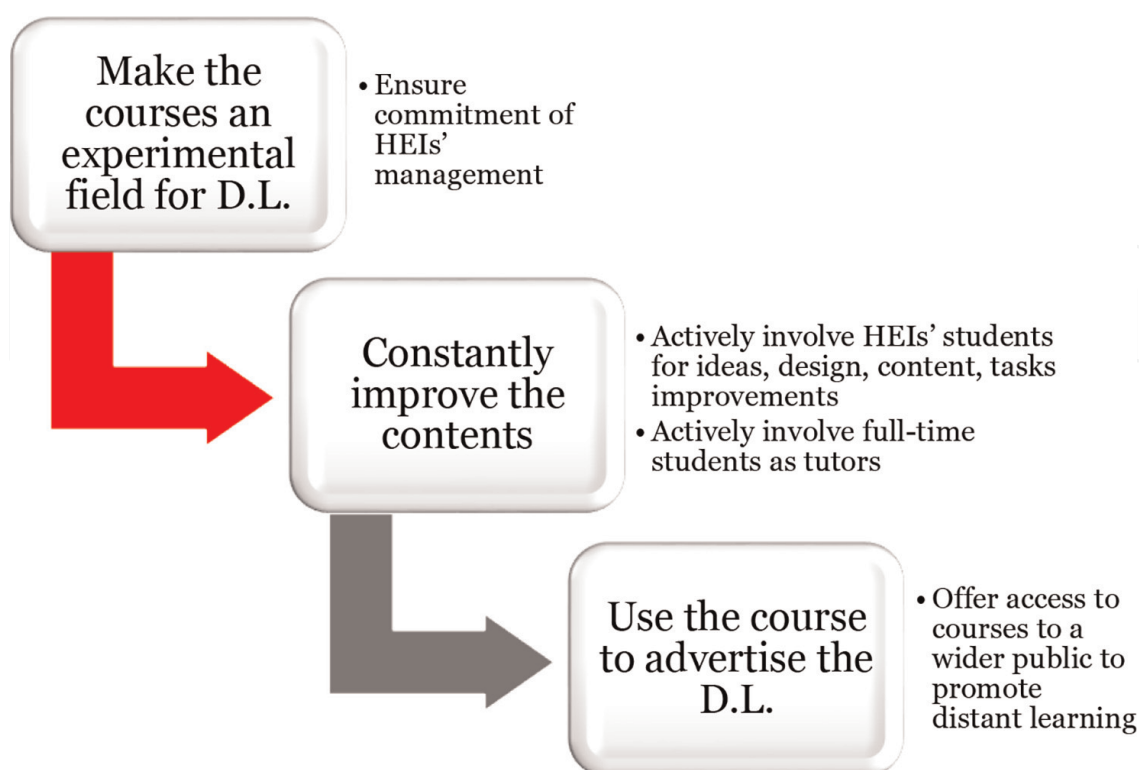




**Figure 7.**  
 Video lesson on aerators usage of the course “Energy saving in everyday life.”

BY region	Total number enrolled	Successfully completed the course	
		No. of students	Share of students
Brest	29	18	62.1%
Vitebsk	23	19	82.6%
Gomel	43	22	51.2%
Horki	24	16	66.7%
Hrodna	22	11	50.0%
Navapolatsk	40	17	42.5%
<b>Total</b>	<b>181</b>	<b>103</b>	<b>56.9%</b>

**Table 2.**  
 Progress of students of the course “Household Energy Saving.”



**Figure 8.**  
 Post-project sustainability ideas for distance learning courses.

(GSTU, Gomel), Yanka Kupala State University of Grodno (YKSUG, Grodno), Belarusian State Agricultural Academy (BSAA, Gorki, Mogilev region), Brest State Technical University (BrSTU, Brest).

The wider objective of this project is development of an internal Quality Assurance (QA) system at Belarusian (BY) partner universities for their academic development with in-service teacher-training program for structural improvement of the employment and pedagogical performance of teaching staff and students' participation in quality assurance at BY Universities.

Participation in this project made it possible to study active teaching methods, the system of academic development of teachers and approaches to assessing the quality of teaching and learning at partner universities.

For example, at Heidelberg University of Education (Germany), the staff from Belarusian universities studied the approaches to the educational process organization. They are implemented in a way that guides students towards a learning model in which they:



- know the direction of their career development;
- independently regulate the model of professional competencies;
- use the technologies of personal development, ensuring efficiency and self-motivation.

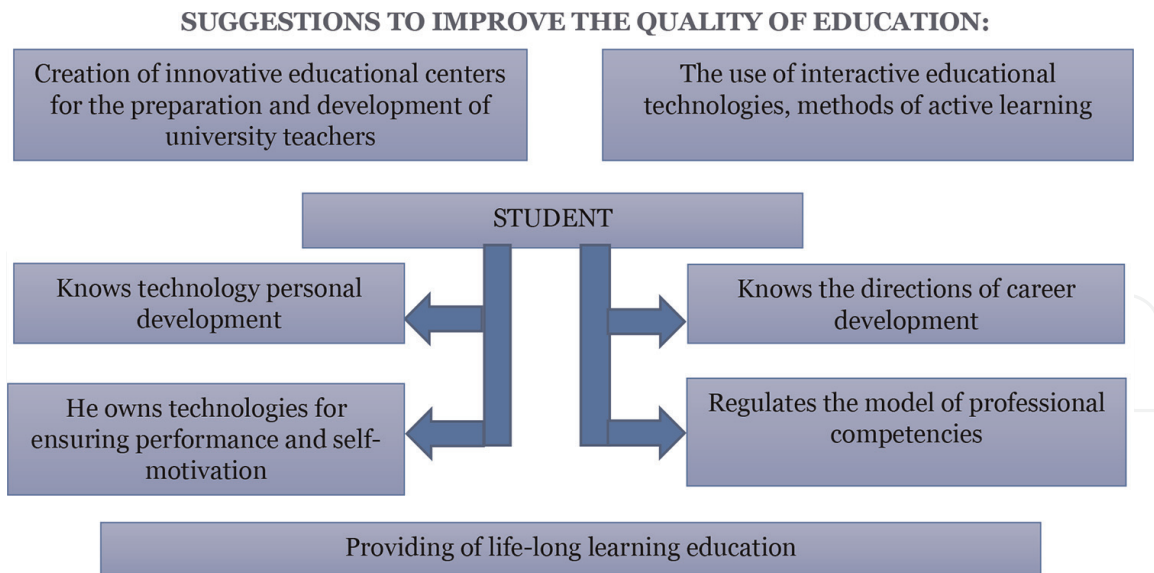
Heidelberg University of Education teachers apply active learning methods, create video lessons, use ergonomic and transformable furniture for the learning process, and develop social and personal competencies of both teachers and students.

In addition, various courses and subject at the university can be enhanced by using the modern VR technologies in education (**Figure 9**).

Based on the experience of Linnaeus University, Heidelberg University of Education and University of Genoa, Belarusian universities have proposed a student-centered approach, which that is implemented at Lifelong Learning Institute at Sukhoi State Technical University of Gomel (**Figure 10**).



**Figure 9.** Studying the experience of using VR-technologies in the educational process at the Heidelberg Pedagogical University (Germany) and at the Nevsehir Haci Bektas Veli University (Turkey).



**Figure 10.**  
*Suggestions to improve the quality of education.*

In developing the university's QA strategy, the following principles were considered:

- the quality of the education depends directly upon the quality of the educators. It is no longer acceptable for educators to possess only skills and knowledge necessary to teach [9];
- it is important to develop and implement QA strategies built into all university services [10];
- involvement of students in the development and evaluation of courses will give teachers an understanding of the relevant issues of student learning and knowledge management [11].

During the UniTeLE project, the experience of the University of Genoa (Italy) in applying active learning methods and assessing the quality of education, as well as the development of lifelong learning was studied, disseminated and implemented by the beneficiary universities [12, 13].

By the same way, the analysis of the quality of education should be carried out in two directions [14]:

1. analysis of the quality of education provided;
2. analysis of the quality of education received.

Due to the knowledge gained during the visit to Italy and Germany, the following active learning methods have become effectively applied at the Lifelong Learning Institute at Sukhoi State Technical University of Gomel.

- **Buzz groups**—is a method of collaborative learning. It involves the formation of small discussion groups in order to work on a specific task (generation of ideas, problem solving, etc.).



## Università di Genova

One problem is preliminarily discussed in small groups, and then the general discussion of the problem begins (**Figure 11**).

This technique makes it possible to improve the quality of the result, and, if desired, to discuss the problem in more detail from different angles. To get more detailed review, the lecturer can give an appropriate individual task to each small group at the preliminary stage). Students learn to prepare solutions to problems in a short time using effective team interaction.

- **Critical debate**—the method of critical debate involves dividing students into two teams for giving a particular solution to a problem. One team prepares a speech and arguments in support of the decision (the “For” group). The other team prepares to challenge the solution proposed in the task (group “Against”). After the preliminary stage of group discussion, general discussion takes place within a predetermined format (speech, questions and answers to them, discussion) (**Figure 12**).

By this experience, students learn to consider different points of view, to choose arguments, to convince others that they are right. Along with improving the quality of the acquired knowledge, students develop important communicative competencies: the ability to persuade, speak in public and lead a discussion.

- **Sequence chains.** This method is used if it is requisite to study the essence, patterns, sequences in relatively complex systems. To give such a lesson, it is necessary to prepare the material in advance and determine the number of groups (equal to the number of prepared logical chains). The material can be handed out on a sheet of paper separately for each predetermined group. There is an alternative solution—to give each student a card with a part of the problem so that



**Figure 11.**  
*Buzz groups discussion.*





**Figure 12.**  
“Critical debate” in the educational process of the LLL Institute at GSTU.

they themselves find their groups in the process of mutual active communication. After that, each group assembles the problem from its constituent parts, and then looks for ways of solving it, putting the elements of the structure in order and creating chains of sequences. The group fixes the chains graphically. Thus, in addition to basic knowledge, students develop the ability of logical thinking, teamwork and also use various methods of memorizing material.

- **Send-A-Problem.** While preparing for the lesson, the task for students is divided into problems. At the beginning of the lesson, students are divided into teams (preferably 2–4 people each).

Each team is given one of the problems of the task. The duration of the round for discussion and proposal of ideas is set. During the discussion, any ideas can be expressed and recorded by each team member. At the end of the time of the next round, the team passes on its proposals for solving the problem to the neighboring group, which in the next round also contributes to the solution and then passes the problem on. Thus, the solution to each of the problems during the lesson is discussed and improved by each student group. In the last round, each team prepares one problem for presentation, summarizing all the best ideas developed by the groups during the session. This method forms students' readiness for joint problem solving. The process encourages creativity in problem solving and emphasizes the value of different points of view. The Send-A-Problem method can be applied both for classical learning, for example, in practical classes, and for distance, online learning using online forums.

In the process of active learning, a number of rules should be followed: it is necessary to ensure the active participation of everyone. So, students should listen carefully, study different points of view and put away mobile phones, computers, tablets.

Particularization of Intervention Areas research was applied to achieve the aim of the UniTeLE project [15]. To carry out this kind of research, a consortium of Belarusian universities used:





- SWOT analysis of QA at each Belarusian partner-university;
- Definition of areas of concern & project intervention.

This approach was chosen at an initial meeting at LNU (Sweden).

Questionnaire survey on the quality of higher education processes and its development priorities was taken as a basis of the survey, along with the interviewing the expert community and stakeholders.

The major principle of the UniTeLE project is a student-centered higher education system. It means, that student's needs and abilities is the core of the higher institution management. The authors of the article have suggested a research process which includes the following 7 steps:

1. Development of a unified approach to research;
2. Creation of working Groups in each of the 6 Belarusian universities of the project consortium: 10+ managers, 15+ lecturers;
3. Carrying out at each university sociological research by questioning managers, lecturers, students, alumni (at least 500 respondents);
4. Sociological analysis of the survey results;
5. Conducting focus groups at universities in areas of improving the quality of Belarusian higher education. Participants: managers, lecturers, students;
6. Preparation of summary report: the matrix of the SWOT-analysis of quality of higher education;
7. Defining Interventions and Improvements: SWOT Offerings Matrix.

The suggested steps lead to:

- creation of expert groups, which included more than 60 managers and more than 90 lecturers from six different Belarusian universities;
- extensive sociological survey with more than 350 participants, who were mostly students and graduates of Belarusian universities (both Minsk and regional centers);
- the appearance of representative image balanced by gender, age, social and professional status.

Questionnaire was used as the basic methodological tool of sociological research, with 27 common and 4 supplementary questions in it.

Questionnaire options made it possible to take a look at the wide range of opinions on the problems of higher education as well as on the factors which regulate its quality.

The following areas were covered:

- professional, social and personal skills, such as experience, reputation, qualifications, lifelong learning, motivation;
- university material and technical base value (classrooms, equipment, laboratories, spots for physical, cultural and intellectual development);
- educational technologies, methodological and information support, training software and apps;
- the role of stakeholders in university development;
- students' and teachers' social roles;
- organization of students' self-education work;
- influence of demographic, economic, political factors aspects;
- connection between the international university cooperation and higher education quality.

There also were questions, which were used to identify the most important characteristics of a highly competitive university on the educational market.

The following recommendations were given as a conclusion:

- more attention should be paid to the development of Soft Skills competencies among teaching staff (on interaction with students, etc.);
- active learning methods should be widely introduced;
- more attention should be paid to the development of Soft Skills competencies among students (job search skills, entrepreneurship, self-employment, etc.);
- stakeholders (along with the students) should be involved in the process of education quality assurance;
- assessment of university teaching staff should have a systematic approach;
- HRM should be applied in recruitment and academic development of university teachers.

Realization of such steps as development of methodological and information support of educational process, employment of highly qualified teachers who are able to use modern educational technologies and have necessary social and personal competencies is supposed to lead to the permanent motivation of students to perfect their key skills following the principles of Lifelong Learning. The matrix of SWOT-proposals for improving the system of higher education in Belarus is presented in **Table 3**.

Necessary activities to use strengths to increase opportunities	Activities that use strengths to avoid threats
<ol style="list-style-type: none"> <li>1. Foreign specialists' invitation in order to give master classes and to train lecturers of modern educational technologies.</li> <li>2. International internships and training of lecturers to gain the competencies, which are in demand in the region.</li> <li>3. Invitation of leading foreign universities lecturers.</li> <li>4. Giving students the opportunity to practice and to train abroad to gain key competencies, which are in demand in the region.</li> <li>5. Training of foreign students in English language. Information and methodological support development.</li> <li>6. Involvement of employers and basic enterprises specialists in the educational process. Cooperation for determining the principles of training, develop of learning design, etc.</li> <li>7. Organization of comprehensive assessment system of the educational process quality and effectiveness, of the lecturers and structural university departments work.</li> <li>8. Creation of university departments branches at the enterprises.</li> <li>9. Creation and improvement of electronic interactive training courses for students, applicants, adult student.</li> <li>10. Distance learning development.</li> </ol>	<ol style="list-style-type: none"> <li>1. Universities transformation into regional innovation and educational centers using various sources for in-depth financing of scientific work.</li> <li>2. The development of alternative employment for teaching staff to improve educational technologies and teachers' income level. These might include continuing education courses for employees of basic enterprises using modern educational technologies, courses for adult students, for applicants, etc.</li> <li>3. Development of non-material motivation system for lecturers, e.g., the opportunities to participate in international projects.</li> <li>4. The use of basic enterprises equipment during practice and laboratory studies and for student research laboratories organization.</li> <li>5. Development of unique educational and vocational guidance projects for applicants to involve them in higher education.</li> <li>6. Making contracts with basic enterprises for upgrading and retraining of their employees on the universities.</li> <li>7. Enhancement of applied educational projects related to the development of lifelong education and learning of foreign languages.</li> </ol>
Necessary activities to overcome weaknesses and to use the opportunities provided	Activities that minimize weaknesses to avoid threats
<ol style="list-style-type: none"> <li>1. Interactive teaching technologies, interactive teaching forms and methods development.</li> <li>2. Adult education development, new educational services development, including the field of upgrading and retraining studies.</li> <li>3. Modernization of curricula, introduction of modern educational technologies.</li> <li>4. Intensification of project activities on application preparations for grants and various competitions. Especially the ones that related to financing the development of education and experience exchange with partners from foreign countries.</li> <li>5. International contacts development.</li> </ol>	<ol style="list-style-type: none"> <li>1. Involving all who are interested, in the process of evaluating and improving the educational process.</li> <li>2. Systematic training and development of social and personal skills and competencies, both for lecturers and students.</li> <li>3. Development and support of a corporate culture of quality and innovation.</li> <li>4. Search for sponsors and funding to design innovative infrastructure (technology park that allows to commercialize student projects, vocational guidance and testing centers for schoolchildren, etc.).</li> </ol>

**Table 3.**  
*SWOT-proposal matrix for the UniTeLE project.*

One more important point is to keep international cooperation and networking among universities to improve the quality and competitiveness of Belarusian education.

Additionally, some of the interesting approaches to the organization of the educational process could be found at Nevsehir Haci Bektas Veli University (Turkey), where the Belarussian partners attended the workshops and trainings within the UniTeLE project.



The University of Haji Bektash-i Veli was founded in 2007. It currently has about 20,000 students, about 700 teachers and 500 employees.

At this university a lot of attention is paid to the involvement of students into the learning process and to the development of their skills to study independently. Various methods are used to increase interest in learning and make students interested in independent work:

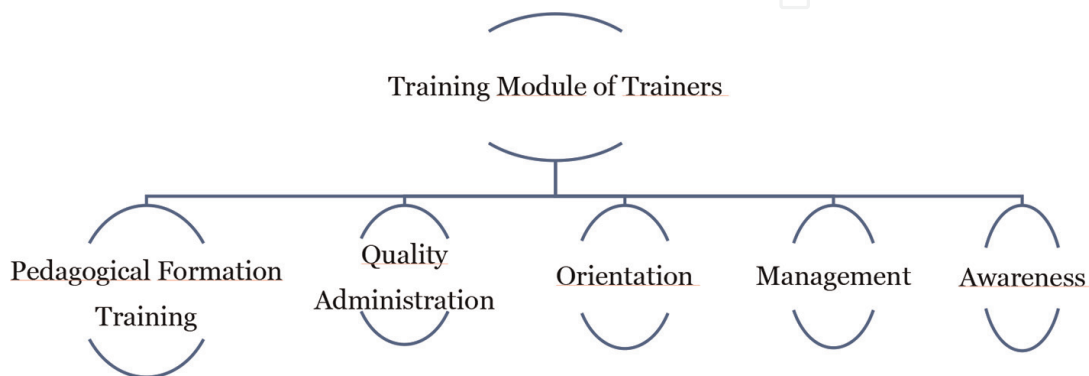
- interaction between the teacher and the student;
- interaction of students among themselves (mutual learning);
- use of visualization tools, audio and video materials;
- brain-breaks video applications (<http://hopsports.com/videos/international>), etc.

There is also a creative approach to the balance between learning and relaxation during special lessons conducted in the form of dancing and singing, and short active breaks, so called **BRAIN-BREAKS**, which adds to the activization of learning [16].

The approaches of **Nevsehir Haci Bektas Veli University** to the organization of the system of advanced training of teachers have already been applied at the Sukhoi State Technical University of Gomel when creating the Center for Advanced Training of Teachers (**Figure 13**):

The experience of Nevsehir Haci Bektas Veli University in assessing knowledge during distance learning process seems to be good for application in Belarus. Students not only complete assignments on the learning portal, but they also record video responses to prevent cheating.

Participation in the UniTeLE project made it possible to establish new contacts and friendly relations with universities in the European educational space (Sweden, Turkey, Germany, Italy). Moreover, due to the results of internships for teachers at the universities of the consortium, the beneficiary higher education institutions were able



**Figure 13.**  
*System of advanced training for teachers.*

to introduce modern educational technologies at their courses and educational programs, including conducting training using network technology (**Figure 14**).

For example, to develop a curriculum "Learning Design" and improve the skills of our university teachers (**Table 4**).

As a result, six Belarussian universities established Centers for Academic Development of Teachers (CADTs) that promotes and disseminates the gained experience and know-how.

One of the key modules of the course "**Learning Design**" is the module "**Innovative teaching methods and technologies**." This module reveals of active learning methods, and is especially devoted to the development of the most relevant digital competencies of academic staff [17, 18]. The fact that the learning design of this module was developed as a syllabus and as a guideline for a student and for a teacher makes this approach highly appreciated by both teachers and students [19, 20].

Purchased within the project, the technical equipment of the Centers for Academic Development allows for to enhance the trainings using information, communication and network educational technologies, with the possibility of online participation of specialists from other universities and countries (**Figure 15**).

Thus, the described pilot experience in conducting professional development courses for teachers of technical universities has shown good results in the use of network educational technologies and online participation of Belarussian universities (GSTU, Gomel; PSU, Polotsk; YKSUG, Grodno; BSAA, Gorki; BrSTU, Brest), European universities (LNU, Sweden; UniGe, Italy; PH Heidelberg, Germany). We also organized an interesting seminar "**Psychology of Creativity and Innovation for Students of Economics and Technology**" for the teachers with online participation of colleagues from Colorado Mesa University (USA).

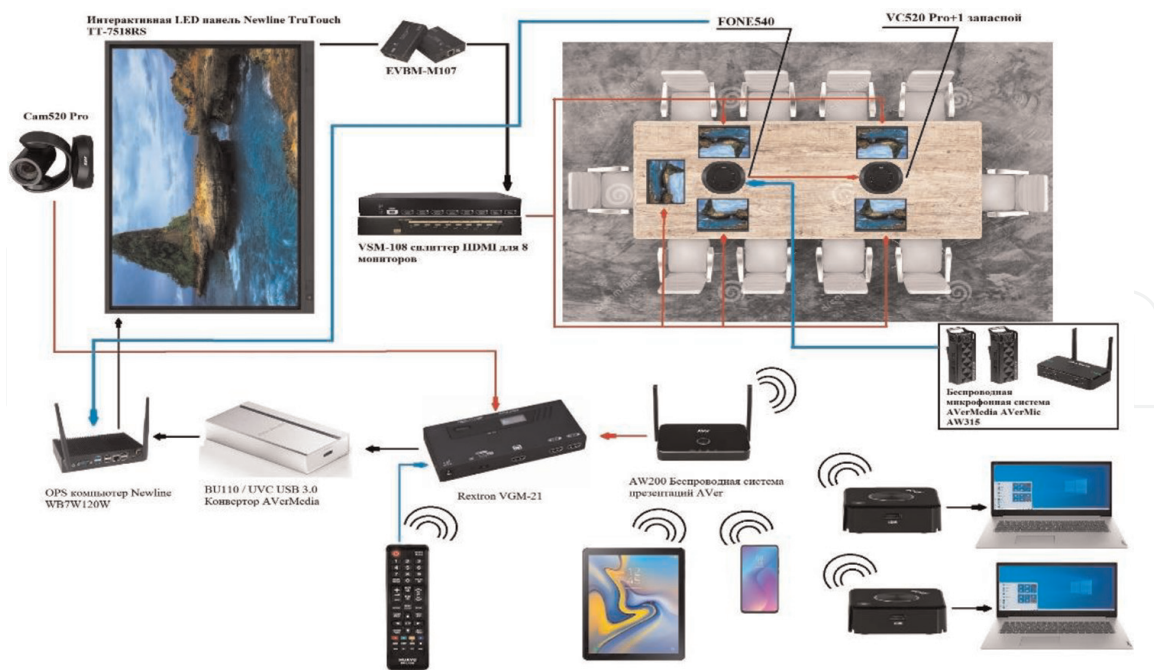


**Figure 14.**  
*Improve the qualifications of GSTU teachers.*

Module No. 1	Culture of quality
Module No. 2	Innovative teaching methods and technologies
Module No. 3	Team building and mutual learning
Module No. 4	Psychology of interactive learning
Module No. 5	Leadership and social responsibility
Module No.6	Learning Design

**Table 4.**  
*The first BY University course "Learning Design" to improve the skills of university teachers.*





**Figure 15.**  
*Project of e-learning classroom—Academic Development Center at Sukhoi State Technical University of Gomel.*



Speaking about the implementation of the European experience in GSTU, we would like to emphasize the following positive aspects. In the classroom, teachers use interactive platforms to test knowledge and present new information in a form game. Active learning methods, interactive platforms where students can answer questions, take part in quizzes, create discussions and polls using their mobile phones, have received good feedback from our students and teachers.

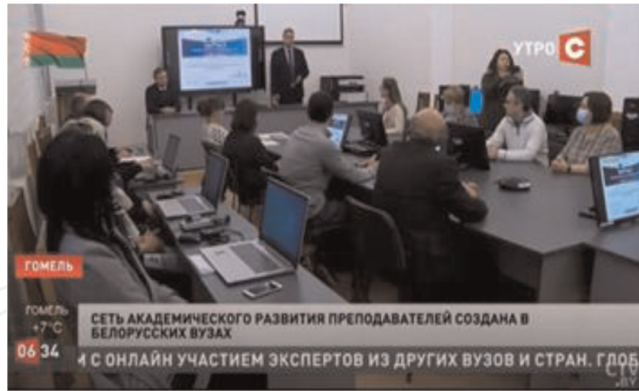
On the basis of the Center for Academic Development of Teachers (CADT), Sukhoi State Technical University of Gomel is currently performing advanced training programs, internships, training courses for faculty staff, as well as for students. Moreover, it creates more accessible opportunities to use the information and communication educational technologies and networking with partners (**Figure 16**).

The teachers are able to use electronic educational Internet-resources, develop distance and blended learning courses, apply elements of gamification and active learning methods.

Also, good results are shown by educational activities, which are aimed at developing of social and personal competencies.

Today, students of Lifelong Learning Institute at Sukhoi State Technical University of Gomel, within the framework of academic disciplines, master European time management techniques, anti-stress practices and trainings, communication trainings (the ability to establish contacts and make connections, to be persuasive and speak in public), develop communication and mediation skills in conflicts, performance management, self-motivation, business planning, job search, etc.

Thus, the best practices of European universities have been applied in the Republic of Belarus and are contributing, in particular, to:



**Figure 16.**  
*Report on the TV channel about the BY CADTs.*

- active use of electronic educational resources, the introduction of distance courses and blended learning courses;
- development of a student-centered approach in the design of training courses;
- improvement the independent work of students, self-learning and the interaction of students with each other;
- dissemination of active learning methods and gamification for effective assimilation of educational material;
- development of partnerships between universities, networking of universities.

#### **4. Private sector development through career advising**

Significant results in the development of entrepreneurship and solving the problems of employment of Belarusians were achieved through the application of the experience of the internship under the Community Connections program, sponsored by the U.S. Agency for International Development.

The Community Connections program is a 3-week internship in the USA designed according to the professional interests of the participants.

Internships include visits to similar professional organizations in the United States to exchange experiences, participation in conferences on the topic of the visit, communication with experts, as well as participation in cultural events and volunteer activities.

The selection is carried out on a competitive basis based on the results of questionnaires and interviews. Proficiency in English is not required to participate in the program.

The experience of this program, studied in 2015 on the topic “**Private Sector Development through Career Advising**” (host organization **Global Ties Detroit**), was widely implemented in GSTU and the Gomel region (Belarus).



This experience may be interesting for specialists working with socially vulnerable groups from other countries.

The main part of the internship took place in Detroit, where several activities focused on problems with unemployment and employment. As part of the internship, the participants got acquainted with the experience of about 30 different organizations in Detroit (career development and job assistance centers, entrepreneurship development centers, colleges, universities, public organizations, **Figure 17**).

Among others, the hosts presented their experiences on government programs and American experience on how to help people find employment, including socially unprotected people, the illiterate, the homeless, and how they can create their own business.

The participants also got acquainted with the experience of Detroit Universities (Wayne State University, <https://wayne.edu>; Oakland University, <https://www.oakland.edu>) and Colleges (Wayne County Community College District, <https://www.wcccd.edu>; Macomb Community College, <https://www.macomb.edu>) in the work of student career development centers and leadership programs.

Entrepreneurship and private business are of great importance in solving the problems of employment in the United States. Considerable efforts are devoted to promoting the ways of how entrepreneurs can solve the social problems of society.



**Figure 17.**  
*Some visited organizations in Detroit.*



Therefore, the colleagues from both countries discussed the best practices of training people, programs for the development of entrepreneurial skills, programs for business education, and entrepreneurship support.

When developing projects implemented in Belarus, similarities between the city of Detroit (USA) and the city of Gomel (Belarus) were taken into account, including a similar level of industrial development (machine building, for example), which has led Detroit to unemployment problems, the need for vocational training, as well as economic recession in the past. Due to this experience, as well as advice from American colleagues and interaction with other Community Connections alumni, it became possible to implement a number of ideas and projects in Gomel (Belarus), among which are the projects “**Successful Employment,**” **Inclusive Business School** “**Social Entrepreneur,**” **Start-Up School** “**ИПК Business School.**”

The projects implemented in Gomel are aimed, first of all, at promoting the employment of students and socially vulnerable groups, the development of business education and social entrepreneurship. For example, the best practices from Detroit were implemented at GSTU through the educational innovative projects “chool of social entrepreneurship” (since 2016) and “Successful Employment” (since 2017).

The educational project “**Successful Employment**” was implemented in 2017-2018 with the support of U.S. Embassy Small Grants Program (**Figure 18**, <http://www.mystart.by>).

The project allowed GSTU to organize events for successful employment, career growth, increasing employment and entrepreneurial activity of citizens of the Gomel region who have lost their jobs or are at risk of losing them, as well as to increase the personal social responsibility of citizens to society and their families.

A key feature of the "Successful Employment" project is the emphasis on psychological support for participants (experience of JVS Human Services, <https://jvshumanervices.org>) and training in the programs "How to find a job" and "How to create your own business" (experience of DESC, <https://descmiworks.org>; TechTown Detroit, <https://techtowndetroit.org>; International Strategic Management (ISM) <https://myisminc.com>, and others).



**Figure 18.**  
*Logo and film about the project "Successful Employment."*

Moreover, using the information resources of the ISM enhances the up-to-date information on the development of entrepreneurship such as, for example, the tactics and strategies that lead to strengthened engagement of the potential customers in solid, beneficial relationships [21].

Over 50 interactive seminars were held during the project "Successful Employment," trainings and masterclasses were held, and more than 150 people took part in the project, including 52 participants of final part on creating own business. At least 25 project participants were successfully employed and have already created their own businesses and got project mentors support.

For the 1st time in the Gomel region, an open IT-HACKATON was held (PONYRIDE experience, <https://www.ponyride.org/>)—a competition on developing innovative job search resources, and for the 1st time in Gomel region, a competition of housewives and mothers on maternity leave business ideas was held (experience of Build Institute, <https://www.buildinstitute.org/>).

At the final stage of the project, a large-scale conference was organized, where the participants presented their business projects to the mentors (**Figure 19**).

The prize-winners received financial support from project funds. Systematic activity on the support of employment and business initiatives was organized on the basis of LLL Institute at Sukhoi State Technical University.

Relevant job placements and career development of project participants confirm that U.S. experience can be successfully used in Belarus. And this experience was scaled up thanks to the “**Inclusive Business School of Social Entrepreneur**” project, also based on the experience of Detroit.

Successful entrepreneurs, experts from Belarus, Sweden, Italy, and alumni of U.S. exchange programs have united to implement the School of Social Entrepreneurship project.

Aiming at the development and promotion of the social entrepreneurship in Belarus, the university staff have created the first social business school in the Gomel



**Figure 19.**  
*The final conference by project "Successful Employment."*





**Figure 20.**  
International networking: experience of the TEMPUS Ecotesy Project.

Module No.1	Social entrepreneurship: history, criteria and foundations for creation
Module No.2	Legal aspects of social entrepreneurship. Legislative privileges and preferences
Module No.3	Social Business Ideas: Development and Crash Testing

**Table 5.**  
Fragment of the first of BY university course curriculum on the discipline "social entrepreneurship."

region (since 2016), that is implemented in partnership with local public organizations and business communities.

The school is based on an innovative business course on social entrepreneurship, during which participants develop their social business projects and create their own business with the support of experienced mentors.

It should be noted that within the framework of the pilot initiative "School of Social Entrepreneurship," Valentina Vasicheva for the first time presented the principles and ideas of network interaction between scientific communities from Sweden, Belarus, Ukraine, Estonia, Spain, UK (**Figure 20**), which were worked out in 2014-2017 in the course of the international project "**Interregional Network for Innovative Development of Ecosystems Technosphere Based on Micro- and Nanoobject Technologies**" of the European Union TEMPUS Program.

Thus, from 2016 to 2022, more than 150 people were trained at the school of social entrepreneurship, for the first time in Belarus, the LLL Institute at GSTU created a training course "**Social Entrepreneurship**" for students (since 2019) and new social entrepreneurs appeared in Gomel (Belarus).

Along with training in economics, marketing and management, as a part of the discipline "**Social Entrepreneurship**", students are taught to formulate a business idea for social entrepreneurship, develop and crash-test a business plan for its implementation (**Table 5**).

In general, the project "Successful Employment" and the "School of Social Entrepreneurship" project made it possible to obtain very interesting results, about which more than 100 reports were published in the Belarusian media and a large-scale publication should be written.

Thus, new communities of graduates of the LLL Institute of GSTU programs and social entrepreneurs are being formed, the development of which is the task of our further research and enhancement. And the authors will be grateful to colleagues for the exchange of experience in working with such communities.

## 5. Conclusions

Effective training courses and educational projects to enhancement of community's connections and build Hard Skills and especially Soft Skills have been

created based on the experience of leading European universities and U.S. exchange programs. Now they are used as a part of various training courses for enterprise specialists, as well as in various educational projects of the university for students and schoolchildren (university Saturdays), for the population (ИПК-Business School, start-up weeks), for unemployed citizens (in cooperation with the Employment Center, public organizations, business communities), etc.

It should be noted that a distinctive feature of the start-up school "IPK-Business School" is the involvement as speakers not only of university teachers, but also, mainly, business coaches from among practicing entrepreneurs (**Figure 21**). And we will be glad to have partners participate in our start-up events.

As a result of the above mentioned experiences, it is possible to conclude that the most promising direction for the further development of education is the networking of universities, government, business, public organizations, and other stakeholders. By creating technical capabilities at universities, including those based on modern information and communication technologies, it becomes possible to build real cooperation between providers of educational services, to launch joint development and implementation of scientific and educational projects and programs.



**Figure 21.**  
*Logo of the Start-up School of the LLL Institute at GSTU.*



**Figure 22.**  
*Areas for partnership in joint development and implementation of educational projects, courses and programs.*

For example, within the framework of cooperation, joint development and implementation of various distance courses, blended learning courses for students and for the public, we offer the following areas for global partnership with colleagues (**Figure 22**).

Based on the experience in creating subject alliances and networking with other universities to develop and implement educational courses, projects and programs for the population, as well as training for teachers of beneficiary universities, it is essential to emphasize the importance of building the network with professionals from all over the world.

### **Author details**

Yury Kalesnik<sup>1\*</sup> and Valentina Vasicheva<sup>2</sup>


1 Sukhoi State Technical University of Gomel, Gomel, Belarus

2 Linnaeus University, Vaxjo, Sweden

\*Address all correspondence to: unk3341932@gmail.com

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