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PhD in Pedagogy, Associate Professor **OLEZIA SADOVETS**,  
Khmelnitskyi National University, Ukraine  
E-mail: lesyasadovets@gmail.com  
ORCID ID: 0000-0002-8603-8952

### **EDUCATION FOR SUSTAINABLE DEVELOPMENT: IMPLEMENTING EXPERIENCE AND PRACTICE OF EUROPEAN COUNTRIES**

#### **ABSTRACT**

*The article analyzes the experience of the leading European countries in implementing the concept of Education for Sustainable development (ESD). Official documents, which are the foundation of ESD policy, are studied and the works of leading scientists and pedagogues related to the issue are characterized. ESD provides learners with appropriate and up to date information on how to organize their life in a way that is friendly to environment and other people. It requires universities to shift education and professional training of students from a knowledge- to a more competence-based approach in their national curricula. This approach encourages the development of students' sustainability competences. It also enables them to implement sustainability values, and embrace complex skills necessary to take or request action that restores and maintains ecosystem health, enhances justice and generates visions for sustainable future. The core document used in higher education system of European countries to develop students' ESD competences is "GreenComp – The European sustainability competence framework" which includes 4 competence areas and 12 competences that together make up a pillar for sustainability practice.*

*ESD requires universities to promote transformative changes in learning in 4 different ways: 1) pluralizing limited agendas; 2) empowering collective influence; 3) politicizing power relations; 4) embedding learning systems. It is stressed that universities must implement ESD based on connectivism principle. Specific examples of this principle in action are described in the article. They include Urban Living Labs, which are a kind of collaboration aimed at implementing joint projects in the field of urban development and infrastructure improvement, and Academic Consultancy Training for master degree students in which they cooperate with students of other educational programs (specialties) and stakeholders to conduct interdisciplinary research and learning.*

*To outline the ways European experience can be used in developing countries, namely Ukraine, legislative documents of the country related to ESD were characterized and the corresponding activities of Ukrainian universities (on the example of Khmelnytskyi National University) were described. In the result, a set of recommendations was prepared on how to improve the policy of ESD in developing countries using European experience.*

**Keywords:** Education for Sustainable Development (ESD), European countries, sustainability competences, higher education, universities, transformative change, Ukraine.

### **ОСВІТА ДЛЯ СТАЛОГО РОЗВИТКУ: ВПРОВАДЖЕННЯ ДОСВІДУ ТА ПРАКТИКИ ЄВРОПЕЙСЬКИХ КРАЇН**

#### **АНОТАЦІЯ**

*У статті представлено аналіз досвіду провідних європейських країн у реалізації концепції Освіти для сталого розвитку (ОСР). Вивчено офіційні документи,*



які лежать в основі цієї концепції, охарактеризовано праці провідних науковців і педагогів, що стосуються проблематики ОСР. З'ясовано, що така освіта забезпечує студентів належною підготовкою до майбутньої суспільно корисної й відповідальної професійної та особистісної діяльності. Концепція ОСР вимагає від вищої освіти зміни системи професійної підготовки та навчального процесу – вони мають базуватися на компетентнісному підході. У результаті такого підходу в студентів формуються компетентності сталого розвитку. Це дає їм змогу впроваджувати цінності сталого розвитку та оволодівати складними навичками, необхідними для здійснення діяльності, яка відновлює і підтримує життєздатність екосистеми, забезпечує якість освіти та життя в цілому і формує бачення сталого майбутнього. Основним документом, який є основою для розвитку компетентностей сталого розвитку студентів у системі вищої освіти європейських країн, є «GreenComp – Європейська рамка компетентностей у сфері сталого розвитку», яка включає 4 галузі та 12 компетентностей, які разом складають основу ОСР.

У статті окреслено різні шляхи впровадження трансформаційних змін в освітній процес і діяльність ЗВО з урахуванням концепції сталого розвитку. Наголошується, що університети повинні впроваджувати ОСР на основі принципу коннективізму. У статті описані конкретні приклади застосування цього принципу. До них відносяться Urban Living Labs, що є різновидом колаборації, спрямованої на реалізацію спільних проєктів у сфері міського розвитку та покращення інфраструктури, та Academic Consultancy Training (навчально-консультативна підготовка) для студентів магістратури, у рамках якої вони співпрацюють зі студентами інших освітніх програм (спеціальностей) та стейкхолдерами для проведення міждисциплінарних досліджень та навчання. З метою окреслення шляхів використання європейського досвіду у країнах, що розвиваються, а саме в Україні, охарактеризовано її відповідні офіційні документи стосовно ОСР, узагальнено та описано діяльність українських ЗВО щодо реалізації концепції ОСР (на прикладі Хмельницького національного університету). У результаті дослідження підготовлено низку рекомендацій щодо перспектив впровадження ОСР в системі вищої освіти країн, що розвиваються, з урахуванням досвіду європейських країн.

**Ключові слова:** освіта для сталого розвитку (ОСР), європейські країни, компетентності сталого розвитку, вища освіта, університети, трансформаційні зміни, Україна.

## INTRODUCTION

Education for Sustainable Development (ESD) is UNESCO's top priority because it is a basic human right and the foundation for building peace and promoting long-lasting development. UNESCO is the United Nations' specialized education agency that provides global and regional leadership in education, which supports national education systems and responds to contemporary global challenges through education. It is entrusted to lead and coordinate the program "The 2030 Agenda for Sustainable development", which is a plan of action consisting of 17 Sustainable Development Goals. The goals are as follows: 1) no poverty; 2) zero hunger; 3) good health and well-being; 4) quality education; 5) gender equality; 6) clean water and sanitation; 7) affordable and clean energy; 8) decent work and economic growth; 9) industry, innovation and infrastructure; 10) reduced inequalities; 11) sustainable cities and communities; 12) responsible consumption and production; 13) climate action; 14) life below water; 15) life on land; 16) peace, justice and strong



institutions; 17) partnerships for the goals. Their achievement will ensure proper development of humanity and its prosperity. Education, being a foundation for achieving all of these goals, has its own dedicated Goal 4, which aims to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (United Nations, 2022). “The Education 2030 Framework for Action” provides guidance for the implementation of this ambitious goal and commitments.

In 2020s, ESD policy has become a cornerstone of education systems in the majority of developed countries of the world. It provides learners with appropriate and up to date information on how to organize their life in a way that is friendly to environment and other people. In the early 2000s, several European countries started to shift their education and training systems from a knowledge- to a more competence-based approach in their national curricula. With such a shift, experts in higher education started to outline specific sustainability competences for students and professionals that are essential for initiating changes for sustainability (GreenComp: the European sustainability competence framework, 2022). While in scientific literature there is a widespread agreement over what the necessary competences for sustainability are, adopting and implementing them in lifelong learning programs remains the task of individual institutions and local educational leaders. Furthermore, constant research is being conducted at the higher education level as to what competences young graduates and professionals need to possess in order to solve sustainability challenges and expand opportunities for development.

#### **THE AIM OF THE RESEARCH**

The purpose of the paper is to analyze theoretical foundations of ESD policy and practice of its implementation in European countries in order to outline the ways this experience can be used in higher education systems of developing countries, namely Ukraine.

#### **THEORETICAL FRAMEWORK AND RESEARCH METHODS**

The basic documents in implementing ESD is “The 2030 Agenda for Sustainable development” (UNESCO, 2022), “The Education 2030 Framework for Action” and “GreenComp: The European sustainability competence framework” (2022). Besides, it has been a subject of research for many scientists and pedagogues during the last decades. G. Bianchi (2022) and U. Pisiotis (2022) studied the European sustainability competence framework and possibilities of its implementation in educational process. M. Pacis (2020) and R. VanWynsberghe (2020) conducted further research into sustainability competences in higher education. J. Chambers (2020) and J. Nel (2020) dedicated their works to transformative learning in accordance with ESD. Professor A. Wals (2020) studied the role of universities in co-creating transitions towards sustainability.

While conducting the research, a range of general scientific methods such as study, analysis and synthesis of reference and scientific educational resources, as well as systematization and generalization, were applied. The research is qualitative (descriptive), quantitative (analysis of google form surveys and statistical analysis) and includes observation and narrative inquiry.

#### **RESULTS**

A sustainability competence enables learners to implement sustainability values, and embrace complex skills necessary to take or request action that restores and maintains eco-system health, enhances justice and generates visions for sustainable future (Bianchi et al., 2022). This definition focuses on developing sustainability knowledge, skills and attitudes for learners so that they can think, plan and act with sustainability in mind, and live in harmony with the planet. All types of learning, which encompasses both education and training, – formal, non-formal, and informal – are considered as directions for



developing this competence from the very young age and continuously fostering it as adults. Sustainability as a competence applies to all spheres of life, both on personal and collective levels. Since emerging in the 1960s, sustainability education and related concepts have often been associated with transformative learning (Bianchi et al., 2022).

The European sustainability competence framework profoundly changes our perspectives, beliefs and behaviour through reflecting on what we know and what knowledge we lack. It encourages us to question how we comprehend our surroundings and the role we play in them. Sustainability education aims to provide learners with sustainability competences in order to implement and practise sustainability in their daily lives as students, consumers, producers, professionals, activists, policymakers, neighbours, employees, teachers and trainers, organizations, communities, and society at large (GreenComp: the European sustainability competence framework, 2022).

In view of this, education is intertwined with sustainability at all levels through competences included into national curricula. It demonstrates how sustainability aspects (environmental, social, cultural and economic) are interrelated and how they are interlinked and implemented in academic disciplines and extracurricular activities. Sustainability education is associated with transformative learning as its aim is to change the person and the social institution through a holistic approach (Bianchi et al., 2022).

Learning for sustainability involves developing a sustainability mindset from childhood to adulthood with the understanding that humans are part of and depend on nature and surrounding people. Learners are provided with knowledge, skills and attitudes that help them become agents of change and contribute individually and collectively to shaping future on the planet. Learning for sustainability has the potential to be a catalyst for change among young and adult generations, through the acquisition of sustainability competences. In this respect, we want to study the experience of European countries, namely Finland, Denmark, Sweden, Latvia, Lithuania, the Netherlands and Poland, regarding their practice of implementing ESD competences.

The core document used in higher education system of these countries to develop students' ESD competences is "GreenComp – The European sustainability competence framework" (Bianchi et al., 2022). It includes 4 competence areas and 12 competences that together make up a pillar for sustainability practice for all people. At the same time, it does not mean that every person must acquire all these competences in equal measure. They are all interrelated but due to the way of life or branch of professional activity of every individual, some of them can be developed less or more than others. In table 1, the competence areas and the competences are shortly explained (Table 1).

According to J. Chambers et al., transformative change is a fundamental system-wide reorganization of how societies are governed (Chambers et al., 2020). Since it is a system-wide reorganization, the role of universities is enormous as they actually prepare professionals for various branches of life that make this system.

Researchers participating in the project "71 Visions on our role in social-environmental transformative change" (Wageningen University & Research, the Netherlands) identified 4 ways of promoting transformative changes in learning:

1. Pluralizing limited agendas – finding common ground in ways that foster respect and learning across diverse beliefs, values and goals.
2. Empowering collective influence – building individual capacity to act and collective momentum to move towards transformative visions.
3. Politicizing power relations – becoming politically aware and engaging with power in ways that accelerate rather than block systems change.



Table 1

**Sustainable Development Competences**

Area	Competences	Comments
1. Embodying sustainability values	1.1 Valuing sustainability	Being able to reflect on personal values; identify and explain how values vary among people and over time, while critically evaluating how they align with sustainability values
	1.2 Supporting fairness	Being able to support equity and justice for current and future generations and learn from previous generations for sustainability
	1.3 Promoting nature	Being able to acknowledge that humans are part of nature; and to respect the needs and rights of other species and of nature itself in order to restore and regenerate healthy and resilient ecosystems
2. Embracing complexity in sustainability	2.1 Systems thinking	Being able to approach a sustainability problem from all sides; to consider time, space and context in order to understand how elements interact within and between systems
	2.2 Critical thinking	Being able to assess information and arguments, identify assumptions, challenge the status quo, and reflect on how personal, social and cultural backgrounds influence thinking and conclusions
	2.3 Problem framing	Being able to formulate current or potential challenges as a sustainability problem in terms of difficulty, people involved, time and geographical scope, in order to identify suitable approaches to anticipating and preventing problems, and to mitigating and adapting to already existing problems
3. Envisioning sustainable futures	3.1 Futures literacy	Being able to envision alternative sustainable futures by imagining and developing alternative scenarios and identifying the steps needed to achieve a preferred sustainable future
	3.2 Adaptability	Being able to manage transitions and challenges in complex sustainability situations and make decisions related to the future in the face of uncertainty, ambiguity and risk
	3.3 Exploratory thinking	Being able to adopt a relational way of thinking by exploring and linking different disciplines, using creativity and experimentation with novel ideas or methods
4. Acting for sustainability	4.1 Political agency	Being able to navigate the political system, identify political responsibility and accountability for unsustainable behaviour, and demand effective policies for sustainability
	4.2 Collective action	Being able to act for change in collaboration with others
	4.3 Individual initiative	Being able to identify own potential for sustainability and to actively contribute to improving prospects for the community and the planet

\*Source: Bianchi, G., Pisiotis, U., & Cabrera Giraldez, M. (2022). *GreenComp – The European sustainability competence framework.. Publications Office of the European Union, Luxembourg.*



Embedding learning systems – integrating research and learning into every day decision making without compromising its independence (Chambers, 2020).

Having studied in detail all these ways, we can assert that universities have all the capacities to implement them. They have human resources that can interact in a constructive way; possibilities to gather them together for a common cause; opportunities to interact with other stakeholders, state bodies and NGOs; potential to integrate research and learning into every day decision making. Universities can encourage students to work individually and in groups, create facilitating environment, cooperate with external organizations and funds. They host “bright spots of innovations” which can become “enablers” for transformative change (Wals, 2020). For this purpose, different forms of formal and informal learning can be applied.

Within the scope of our research special attention should be paid to the idea of George Siemens (2005) about the concept of connectivism which is the basis of ecology of learning – networked, facilitated, and mediated configuration of formal and informal forms of learning aimed at a change challenge with involvement of multiple stakeholders (Siemens, 2005). Universities can provide a basis for such configuration – they are potential “hubs” of connectivism. They connect not only students and teachers but also other stakeholders, NGOs and citizens. Universities can and must apply the concept of connectivism to all the activities presupposed by curricula and extracurricular activities as they have all the possibilities to organize learning that cultivates sustainable environment favorable for envisioning alternative futures, experimenting with action, anticipating different outcomes, learning from the experience, combining theory and practice, cooperating for common goals.

A specific example of how the principle of connectivism can be realized in practice is the activities of Urban Living Labs that are a kind of collaboration aimed at implementing joint projects in the field of urban development and infrastructure improvement. Their objective is to realize a range of joint projects and provide the platform for other stakeholders and related projects to collaborate. The platform is called a “hub” and is meant to support the implementation of action-oriented urban development projects, boost synergies, minimise duplications and engage different stakeholders that can contribute to a common cause (Urban Living Lab Centre, 2023). In European countries, universities often become such hubs and provide transformative learning – they ensure cooperation of students, citizens and other stakeholders in developing the city according to sustainable development concept. Besides, they provide all the opportunities for the effective functioning of such hubs: favorable environment, innovations, learning and learners, decision-making power, knowledge and creativity (Wals, 2020).

Another example of transformative learning and the principle of connectivism is the experience of Wageningen University & Research (WUR, the Netherlands) in implementing Academic Consultancy Training for master degree students in which they cooperate with students of other educational programs (specialties) and stakeholders to conduct interdisciplinary research and learning (Wals, 2020). By means of such cooperation, students of different specialties (educational programs) can share their experience with other specialties and do some joint projects exchanging sustainability efforts experience. This experience can be different due to different programs of study but it can be efficiently used in unexpected ways.

Overall, universities must transform learning process from transmissive to transformative and even experimental. Provision of transformative learning requires



introduction of at least one compulsory subject on sustainability into the curriculum. Besides, the syllabus of this subject must include learning outcomes that can replicate the indicators showing learners are creating a world that is easier to live in together (signs of empathy, of intuitive action, of conviction etc.) (Was, 2020).

The described experience of European countries can and should be implemented in developing countries to intensify sustainability efforts in higher education. In this respect, we studied the experience of Ukraine in implementing ESD. In March 2005, Ukraine became one of the 55 countries that signed the UN document “UNECE Strategy for Education for Sustainable Development”. In 2020, the “Concept of the Regional Education System for Sustainable Development” was issued in Ukraine. It defines the main directions of the state and regional policy aimed at the establishment of the education system for sustainable development, as well as legal and economic ways of its implementation.

On September 30, 2019, the President of Ukraine issued the Decree “On Sustainable Development Goals of Ukraine for the period until 2030”, in which he supported the necessity to achieve global sustainable development goals, taking into account the specific conditions of Ukraine’s development, set out in the National Report “Sustainable Development Goals: Ukraine” (2017).

Within the conducted research we analyzed the activities of Khmelnytskyi National University (further – the University) related to ESD. This regional higher education institution is only taking the first steps in its ESD efforts. It has a fundamental document regarding ESD – the Order of the Rector “On Equality Policy” (2022). This document was developed in accordance with the laws of Ukraine “On Higher Education”, “On Education”, “On Principles of Preventing and Counteracting Discrimination in Ukraine”, “On Ensuring Equal Rights and Opportunities of Women and Men”. It also was based on the Regulations on the prevention and settlement of conflict situations at the University, the Regulation on the organization of the educational process at the University and other acts of the current legislation of Ukraine (Polityka rivnosti Khmelnytskoho natsionalnoho universytetu, 2020).

The University realizes the role of higher education institutions in the formation of national and regional policies. Its takes into account the Sustainable Development Goals, demonstrates its commitment to ensuring human rights, equal opportunities and respect for diversity, fair and impartial treatment, and creates conditions at the university and in society that respect and value the dignity of every person, with an emphasis on vulnerable population groups. Equality of opportunities and respect for diversity at the University is implemented with consideration of gender; age; state of health and disability; balance between work/study and family/private commitments; racial, ethnic, cultural affiliation; and religion and creed (Polityka rivnosti Khmelnytskoho natsionalnoho universytetu, 2020).

Considering the fact that international students from all over the world (Cyprus, Israel, Ecuador, India, Pakistan, Nigeria, Zimbabwe, Greece etc.) study at the university, the Equality Policy is an essential document and all students must get familiar with it before starting their studies at the University.

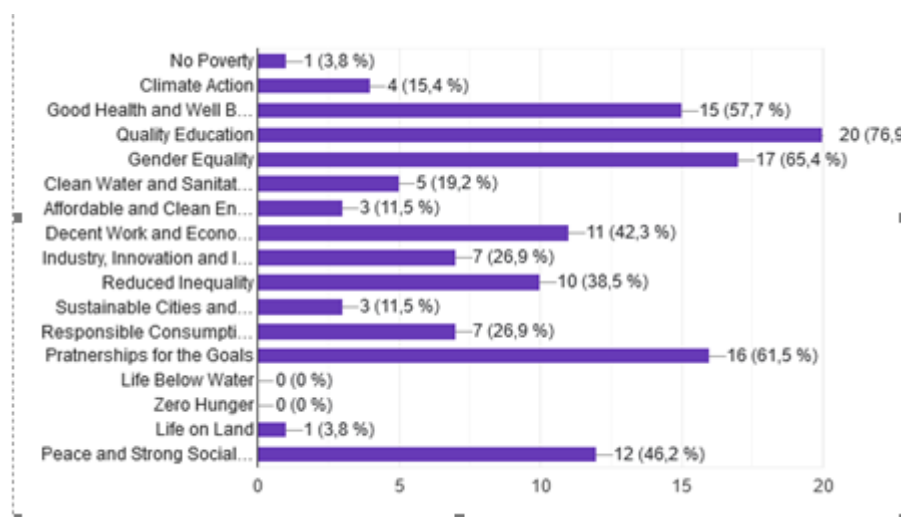
It should be mentioned that activities of the University contribute to the achievement of Sustainable Development Goals. Annually, the Department of Ecology organizes a round table on the Problems of Sustainable Development of Khmelnytskyi Region in cooperation with regional association of All-Ukrainian Ecological League and Podillya Ecological Society. The participants are teachers of the Department of Ecology, students studying Ecology and Secondary Education (Biology and Human Health),



representatives of the Department of Natural Resources and Ecology of Khmelnytskyi Regional State Administration, Khmelnytskyi Regional Administration of Forestry and Hunting, Administration of Ecology and City Well Being Control, Executive Committee of Khmelnytskyi State Administration (Problemy staloho rozvytku Khmelnytskoyi oblasti, 2019).

In addition, the Department of International Economic Relations holds an annual international scientific and practical conference of young scientists and students “Intellectual Mix: International Economic Relations: Sustainable Development and Digitalization”. Various aspects of international economic relations are explored, including globalization processes, international logistics, digitalization, economic security and post-war reconstruction, innovative development etc. (Intelektualnyi miks: mizhnarodni ekonomichni vidnosyny: stalyyi rozvytok i dydzitalizatsia, 2023).

In order to analyze students’ stance on ESD, we conducted a survey (Google form) to collect more information on how well the students of the specialty “Secondary Education. English language and literature” (26 students) are aware of the concept of ESD (the choice of the specialty was not random; it is based on personal experience of the author who works at the Department of Foreign Language Education and Intercultural Communication and is involved in professional training of the chosen students – future teachers of English). The results are the following: when asked if they were familiar with the concept of ESD, 65,4 % of respondents answered negatively and only 15,4 % responded positively; for the rest it was difficult to answer; 84,6 % would like to know more about ESD and study an academic subject related to it. Respondents defined that the university and students can contribute to achieving the following ESD Goals: quality education; gender equality; partnership for the goals; good health and well-being; peace and strong social institutions (Fig. 1):



**Figure 1. Students’ assessment of their own and university potential to contribute to achieving ESD goals**

An oral survey of teachers working at the Department of Foreign Language Education and Intercultural Communication (14 people) showed the following results: the





majority of teachers, 79 %, came across the concept of ESD before but among them only 43 % could explain its essence. 50 % stated that it would be a good idea to introduce a compulsory subject on ESD while the other 50 % responded that it was not necessary for our students or might be introduced only as an elective subject. After the short introduction to the ESD issue, they agreed that it was important but they did not think they could do much to contribute to the issue and change the situation for the better. Mostly, they stated that university must prepare students to sustainability challenges but the level of this preparation should depend on the specialty and educational programs students' study. If they are directly related to sustainability, like Engineering, Agriculture, Ecology, Chemistry Studies etc., students must study compulsory subjects directly related to the development of sustainability competences. If the program is not directly related to sustainability, like Philology, Psychology, Law, Teaching (Education), History etc., there should be introduced at least one elective academic subject for such students.

Nevertheless, the experience of European countries shows that at least one compulsory subject on ESD must be introduced for students of all specialties. The syllabus of this discipline must include learning outcomes that can replicate the indicators showing that people are creating a world that is easier to live in together (signs of empathy, of intuitive action, of conviction etc.) (Wals, 2020).

To demonstrate how ESD can be implemented into academic subjects an experiment was conducted at the Department of Foreign Language Education and Intercultural Communication. As it was mentioned above, the Department provides professional training of future foreign language teachers. So, one academic subject was chosen for the experiment – “Practice of English” (at first sight it may seem that the subject is not related to sustainability but that is the main idea – to demonstrate how sustainability efforts can be implemented into any subject, any program and specialty). Within the syllabus of this subject, students study the topics of “Environmental Protection”, “Our Future Prospects”, “Education and Teaching”. During the term when the experiment was conducted, all these topics became more oriented towards sustainable development issues and the ESD Goals defined by students as the ones the university can contribute to: quality education; gender equality; partnership for the goals; good health and well-being; peace and strong social institutions.

During the lessons, students had more discussions related to ESD issues, watched relevant TED talks videos, listened to podcasts, read appropriate articles and did other activities aimed at the development of ESD competences. Besides, students were involved in brain storming and completed projects in teams trying to find solutions to urgent problems. They tried to find ways of how to use more renewable energy, to save energy at home, to follow teaching ethics while teaching, to respect others and what new forms of businesses can not only be profitable but also help the planet (like vertical farming etc.). Case studies were an important form of activity that involved critical thinking and teamwork for analyzing the problems and outlining recommendations on how to solve them. Students took part in case studies where they were presented with a tricky situation in school (real or imagined) and their task was to find a solution to it as if they were real teachers. These situations were related to issues of racial discrimination at school, bullying, working with groups with mixed learning abilities, low motivation, unfavorable social background, working under the conditions of war etc.

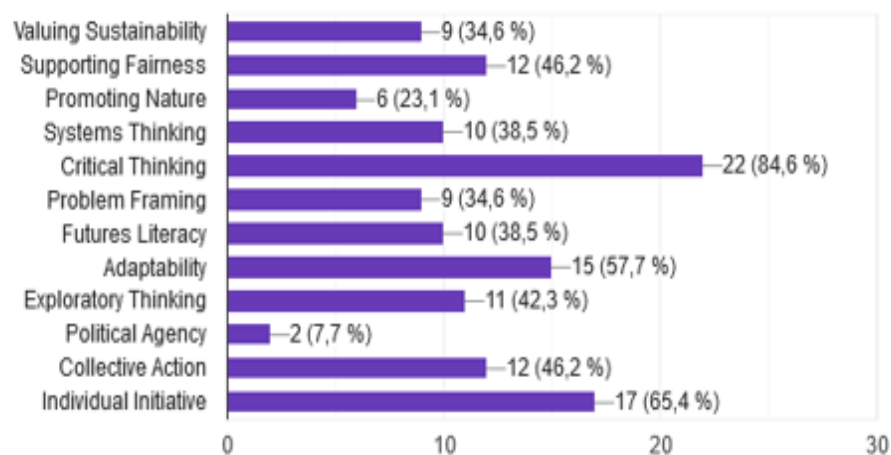
In the result of the experiment, we were able to make a conclusion that such ESD-oriented teaching contributed to developing students' ESD competences to some (greater or



smaller) extent. Google form survey (Fig. 2) showed that students considered ESD-related activities and tasks to be very effective in developing their critical thinking, adaptability, exploratory thinking and supporting fairness competences.

Moreover, the tasks encouraged students to develop competences of collective action and individual initiatives due to teamwork and individual exploratory activities. It should also be stressed that these two competences can be developed in students not only during lessons, but also by means of extracurricular activities aimed at protecting environment and volunteering, such as parks and beaches cleaning; charity causes to raise money for eco-friendly efforts or helping people in disadvantaged areas and vulnerable groups of people etc.

As concerning systems thinking, problem framing and futures literacy competences, the survey showed that students mostly lacked the knowledge about the main concepts and aspects of complex systems, Sustainable Development Goals, and holistic grasp of sustainability actions. Besides, the results show that students do not demonstrate any skills in promoting nature and political agency but it can partially be explained by the fact that they are teachers and that is why do not have such a profound training in these issues.



**Figure 2. Students' assessment of the efficiency of ESD-oriented tasks and activities in developing their ESD competences**

The experiment showed that 84.6 % of responding students are ready to be involved in ESD, develop ESD competences and do activities that are directly related to real life and are practical.

In our opinion, it would be a good idea to introduce a new elective discipline for students in English that would combine the development of both English language communicative competence and sustainability competences covering the topics of environmental protection, equality of education and human rights, partnerships for the goals etc.

Our priority as for now is to increase the volume of theoretical material concerning the issue of sustainable development in education and practical opportunities for students to implement their knowledge in schools and in society. One possible solution is to provide



students with a number of project-based and problem-solving tasks that concern problems of real life and the idea of sustainable development.

### CONCLUSIONS AND PROSPECTS OF FURTHER RESEARCH

In the result of the conducted research, we can make a conclusion that universities have all the potential and proper opportunities to prepare students to dealing with sustainability challenges in all possible ways but the level of this preparation should depend on the specialty and training programs that students study. Anyway, universities should offer a range of elective and compulsory subjects related to ESD or at least use ESD-related tasks and activities while teaching other academic subjects.

As a conclusion to our research, we outlined a set of recommendations on how positive experience of European countries regarding ESD policy can be implemented in developing countries and help them become a hub for transformative change and active implementation of ESD. The recommendations are as follows:

1) fulfilling 4 ways of promoting transformative changes: pluralizing limited agendas, empowering collective influence, politicizing power relationships and embedding learning systems;

2) implementing the concept of connectivism as the core of all transformative learning and sustainability initiatives;

3) borrowing the idea of Urban Living Labs to become a hub for ESD and the experience of WUR in implementing Academic Consultancy Training for master degree students;

4) introducing elective and compulsory disciplines on ESD into curricula to develop ESD competences outlined in GreenComp – The European Sustainability Competence Framework;

5) switching from transmissive to transformative and even experimental learning;

6) providing students with many project-based and problem-solving tasks that concern real life problems and the idea of sustainable development;

7) use ESD-oriented tasks and activities while teaching other academic subjects.

Priority of universities in developing countries as for now is to increase the volume of theoretical material concerning the issue of sustainable development in education and practical opportunities for students to implement their knowledge in schools and society.

The prospects of further research include studying methodological approaches, teaching methods and techniques of implementing ESD tasks into academic disciplines based on the experience of leading European universities.

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