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FOSTERING THE RESILIENCE OF HEIS BY THE INTRODUCTION PRINCIPLES OF EDUCATION FOR SUSTAINABLE DEVELOPMENT: A PILOT STUDY

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Abstract. The purpose of this study is to investigate validity of the survey, used to research how introduction of education for sustainable development (ESD) principles into the process of higher education may foster the resilience of higher education institutions (HEIs). The scope of investigation lies within priorities of sustainable development goals (SDG), SDG 4 – quality education in particular and within the impact of ESD to overall sustainable transformation of the modern world in the challenging conditions.
The tasks of the study are to identify, after a thorough analysis of the factors that determine the implementation of the principles of the ESD in higher education, how its introduction may foster the resilience of higher education institutions. Methods employed in this research includes literature review, survey and it's statistical interpretation. The final results show the importance of the survey questions given to the academic staff of HEIs in an order to determine the priority of study process administrative change in consonance with the ESD principles.

Keywords: higher education institutions, resilience, sustainable development, academic staff, ESD, SDG4.

JEL Classification: Q01, I21, I23, M1, M54.

1. Introduction

Contemporary global and local markets are characterized by volatility, disruption, and shifts in consumer demands that create significant risks for profitable operations of businesses across various sectors of economies. For higher education institutions (henceforth – HEIs), these volatile conditions translate into a myriad of specific negative impacts such as fluctuating enrolment rates, funding uncertainties, and heightened competition for resources. As such, the need for HEIs to strengthen their resilience becomes even more pronounced. By building resilience, HEIs can better withstand shocks and uncertainties, ensuring their long-term sustainability and ability to accomplish their educational mission amidst the turbulence of the market. One approach that HEIs can take to foster resilience to negative market trends is to take a course to sustainability (Aleixo et al., 2018), which is believed to ensure long-term existence of businesses (Vargas-Merino et al., 2024).

The purpose of this study is to investigate validity of the survey, used to research how introduction of education for sustainable development (ESD) principles into the process of higher education may foster the resilience of higher education institutions (HEIs). The tasks of the study are to identify, after a thorough analysis of the factors that determine the implementation of the principles of the ESD in higher education, how its introduction may foster the resilience of higher education institutions. The object of the research are higher education institutions of Latvia, Lithuania and Ukraine.

The choice of these countries is due to the fact that they are located close to each other and are mentally similar in many ways, and are also in close proximity to a common neighbor who is conducting military operations in one of these countries – Ukraine. Thus, the study

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put forward a hypothesis designed to confirm or refute the assertion that Ukraine differs in its principles of ESD implementation from its neighbors:

Academic staff from Ukraine tends to evaluate the importance of introduction of sustainable development principles into the education process in higher education institutions at the lower level then the respondents from EU.

This hypothesis arose from the observation that ongoing military operations in Ukraine might divert attention and resources away from prioritizing the implementation of ESD principles in higher education.

Methods employed in this research includes literature review, survey and it's statistical interpretation. The final results show the importance of the survey questions given to the academic staff of HEIs in an order to determine the priority of study process administrative change in consonance with the ESD principles.

Earlier, orientation of firms towards SDGs, for example, manifested in SDG reporting, was found to encourage more resilient business and operational development of firms (Gerged & Almontaser, 2021), which is why HEIs should implement SDGs into their strategies. Among 17 sustainable development goals of the United Nations, there are 2 that directly promote the sustainability of HEIs – SDG 4 "Quality Education" and SDG8 "Decent Work and Economic Growth" (United Nations [UN], 2015). SDG4 focuses on the provision of good quality education, one consequence of which in the context of higher education is the enhanced student (customer) satisfaction, which should increase the customer numbers, and thus, revenues of HEIs. In fact, SDG4 might be viewed as a foundation for the attainment of all other SDGs due to its focus on relevant skills-for-work and overall emphasis on sustainability (Reimers, 2024), which encompasses SDG8. At the same time, SDG8 approaches sustainability of HEIs through the lens of business organization, employees' satisfaction and economic growth. By integrating principles of decent work into their educational programs and campus operations, HEIs can cultivate a culture of respect, fairness, and equality, which are fundamental to sustainable economic development. Additionally, HEIs have the potential to serve as hubs for research and innovation, driving entrepreneurship and job creation within their communities. By focusing on SDG8, HEIs not only fulfil their role as engines of economic growth but also promote social equity and stability, ultimately contributing to the overall well-being and resilience of society.

Thus, taken together, SDG4 and SDG8 yield a roadmap towards comprehensive sustainability of HEIs, inclusive of customer and employee satisfaction, business processes, financial resilience, the outcomes of which include innovation and long-term competitive advantage. The alignment of SDG4 and SDG8 underscores the interconnectedness of education and sustainable development, which is embodied in the concept of sustainability through education for sustainable development (henceforth – ESD).

ESD goes beyond the mere provision of education by integrating principles of economic, environmental and social responsibilities and actions into the curriculum and institutional practices. The concept of ESD compels HEIs to take a holistic approach to sustainability, which is why sustainability permeates all areas of operations, thus, ensuring that students and staff are equipped with the knowledge, skills, and values necessary for tackling local and global issues of economic deprivation and stagnation, social inequalities, climate change, and environmental degradation. By integrating sustainability across disciplines and promoting interdisciplinary collaboration, HEIs can nurture a new generation of leaders and innovators capable of driving positive change in society. At the societal level, because ESD promotes the attainment of SDGs (Vargas-Merino et al., 2024), HEIs, promoting ESD, both fulfill their educational mandate and significantly contribute to the advancement of SDGs in a larger community. For such reasons, ESD is included in the concept of sustainable university (Pirosca et al., 2020).

The concept of a sustainable university hinges on the synergistic interplay of three vectors: the internal facet focuses on the university premises; the external dimension aims at the community and relationships with socio-economic agents, notably students and their competencies; and the final aspect promotes integration of sustainability principles into the previous two facets (Abulibdeh et al., 2024). By targeting all of the above facets, ESD grows in aspects and areas of influence, which makes the concept complex. This complexity is one of the aspects which makes the concept challenging to implement into university strategies (Aleixo et al., 2018; Pirosca et al., 2020) despite the emergence of 13 ESD indicators (Günther et al., 2022) and theoretical explanations (Pirosca et al., 2020).

One approach inclusive of ESD might relate to the identification of the perceived necessity of importance of ESD and redesign of study processes to incorporate ESD among people who would be charged with transforming curriculum design and ensuring its implementation. When studying implementation of sustainability in educational contexts, Leal et al. (2024) started with researching the importance of the development of sustainability awareness and relevant teaching skills among teaching staff, which was viewed as prerequisite for the implementation of sustainability throughout educational processes. Along the similar lines, the aim of this research was to identify the perception of relevance of ESD to educational processes and the needs for change to accommodate ESD among university academic staff.

2. Literature review

Being a component of Agenda 2030, the concept of ESD employs action-oriented, innovative pedagogy to enable learners to develop knowledge, skills, and values that promote their individual transformation and the transformation of their societies into more sustainably performing agents (UNESCO, 2020). There are various definitions of ESD (Vargas-Merino et al., 2024), which converge on the capacity of individuals and organizations to make reasonable economic, social and environmental decisions (Howell, 2021; Sidiropoulos, 2014) by adhering to sustainable values and behavior (Brunnquell et al., 2015; Milutinovic & Nikolic, 2014), which eventually assimilate into every day decisions (Acevedo et al., 2022) through the development of personal responsibility for sustainable change (Boyle et al., 2015). The standards of ESD strive to encompass various domains, including global citizenship, environmental consciousness and stewardship, forward-looking perspective, social equity, as well as ethics and welfare, all of which align with the SDGs principles (Zguir et al., 2021).

The promotion of ESD is closely related to actions of HEIs (Vargas-Merino et al., 2024). As was mentioned earlier, the complexity and the permeating features of ESD makes it difficult to implement; yet, 4 pillars of ESD provide directions: (1) societal transformation, (2) learning outcomes, (3) learning content, and (4) pedagogy and learning environment (UNESCO, 2020). To begin with, the objective of societal transformation is to foster the attainment of SDGs. In this context, HEIs actively foster the transformation of societies towards sustainable development through concrete actions. Firstly, HEIs equip both students and academic staff with values, ideas, skills, and practical experience to drive transition to sustainable decisions and operations. Through interdisciplinary education, research, and experiential learning opportunities, HEIs empower learners to become catalysts for change in their communities and beyond. Secondly, by transforming themselves in alignment with ESD principles, HEIs serve as exemplars of sustainable practices and sources of solutions. They integrate sustainability into their institutional frameworks, operations, and campus culture, demonstrating to the current and future workforce how financial, social, and environmental challenges can be addressed sustainably. This includes initiatives such as implementing green technologies, adopting sustainable procurement practices, and promoting social responsibility through community engagement and partnerships. By leading by example, HEIs not only educate but also inspire individuals and organizations to adopt sustainable approaches, contributing to broader societal awareness and action towards SDGs.

Building on the objective of learning outcomes within the framework of ESD, HEIs are compelled to transform their curricula into multidisciplinary ones to instill a deeper understanding of sustainability principles across various domains and develop students' competences for sustainable development for tackling finance, human resources, production, and action competences (Guillen et al., 2022; Sinakou et al., 2022). Although the design of interdisciplinary curricula for measuring learning outcomes of ESD is challenging, one approach might focus on measurements of competences as well as changes in attitudes and behavioral intention (Guillen et al., 2022; Sinakou et al., 2022). This change can be promoted through prioritization of experiential learning during internships, research projects, and community engagement initiatives, where students can apply sustainable principles in real-world contexts and develop practical problem-solving skills. This holistic approach not only prepares students for careers aligned with sustainable development goals but also cultivates a mindset of lifelong learning and active citizenship, fostering a culture of sustainability within and beyond HEI cultures.

Expanding on the objective of redesigning study curricula to encompass SDGs, HEIs embark on comprehensive curriculum revisions aimed at integrating sustainability principles across all disciplines and courses. In such cases, HEIs prioritize the development of innovative learning materials and instructional resources that address key SDG themes, fostering a deeper understanding of global sustainability challenges and solutions among students. Additionally, HEIs leverage interdisciplinary approaches to curriculum design, encouraging collaboration across academic departments and fostering a holistic understanding of sustainability issues. Through these efforts, HEIs ensure that students are equipped with the knowledge and skills necessary to address complex societal challenges and contribute to the achievement of SDGs in diverse contexts. This strategic focus on curriculum redesign not only enhances the relevance and responsiveness of HEI programs to contemporary sustainability needs but also empowers students to become proactive agents of change in their respective fields and communities.

The objective of pedagogy and learning environment in higher education institutions (HEIs) encompasses deploying learner-centered teaching methods inclusive of interactivity and project-orientation throughout study programs and courses. This approach ensures that learners are not only passive recipients of knowledge but actively engage with the material, fostering a deeper understanding and application of sustainable development goals. By creating an immersive learning environment, HEIs enable students to acquire SDGs competences while experiencing firsthand how these goals are implemented into the study process. Through learner-centered teaching methods, such as collaborative projects, problem-based learning, and experiential activities, students are encouraged to explore real-world challenges and develop practical solutions grounded in sustainability principles. This hands-on approach not only enhances students' critical thinking and problem-solving skills but also cultivates a sense of ownership and responsibility towards addressing pressing societal issues. By incorporating SDGs into the curriculum in a meaningful way, HEIs empower students to become active agents of change, equipped with the knowledge, skills, and motivation to contribute to sustainable development in their communities and beyond. Moreover, by fostering an inclusive and interactive learning environment, HEIs promote diversity of thought and perspective, enriching the educational experience for all students. Through collaborative projects and group discussions, students have the opportunity to learn from each other's experiences and cultural backgrounds, gaining insights into different approaches to sustainability challenges. This diversity fosters creativity and innovation, as students draw upon a range of perspectives to develop comprehensive and effective solutions to complex problems. Overall, the integration of learner-centered teaching methods and a supportive learning environment aligned with SDGs not only enhances students' academic experience but also prepares them to become global citizens capable of making meaningful contributions to a more sustainable and equitable world. By immersing students in an environment where they can actively engage with SDGs, HEIs play a crucial role in shaping the next generation of leaders and change-makers.

HEIs wield significant influence not only on individual learners but also on research advancements and societal transformations, positioning them as key actors in promoting sustainability and the attainment of all 17 Sustainable Development Goals (SDGs) (McCowan, 2023). Therefore, positive examples of sustainability can propel societal progress towards sustainability. HEIs serve as pivotal hubs where knowledge is generated, disseminated, and applied, making them instrumental in driving progress towards the SDGs across various sectors and disciplines. One instrumental approach in this endeavor is ESD, which inherently adopts a holistic approach to the educational process. By equipping learners with the knowledge, skills, and values necessary to navigate complex sustainability challenges, HEIs foster responsibility and proactive behavior aligned with the SDGs. Moreover, HEIs, through their research endeavors and societal engagement initiatives, have the potential to address multifaceted issues encompassed within the SDGs, ranging from poverty alleviation to climate action and beyond. Therefore, ESD emerges as a comprehensive strategy for HEIs to contribute meaningfully to the sustainable development agenda by nurturing informed, empowered individuals and fostering transformative societal change. Failure to include ESD into study curricula might prevent the development of the mindset focusing on ethical conduct, which might ultimately lead to unsustainable actions on the market, for example, when graduates focus solely on profit-making (Chiang & Chen, 2022).

3. Methodology

The authors designed a survey, which consists of two blocks – respondent profile and attitude and opinion towards the introduction of education for sustainable development principles into the process of higher education. The structure of the survey is presented in Table 1. 62 respondents from three countries – Latvia, Lithuania, and Ukraine were surveyed, educators representing Higher Education Institutions from each country respectively EKA University of Applied Sciences, Klaipeda University of Applied Sciences and Kyiv National University of Technologies. The sample involved 50 female and 12 male respondents. The age distribution was the following:

- 1 20–29-year-old respondent;
- 12 30–39 years old respondents;
- 32 40–49 years old respondents;
- 11 50–59 years old respondents;
- 6 60–64 years old respondents.

Regarding working experience as an academic staff member, the largest share was represented by respondents with 10–19 years of working experience – 23 respondents, followed by 20 respondents who noted their experience as 20+, and 19 respondents who noted their experience as less than 10 years.

The largest share of respondents was represented by Social Sciences – 34 respondents, followed by Applied Sciences – 16 respondents, while Arts and Humanities were represented by 10 respondents, and smallest share was represented by 2 respondents from Natural and Life Sciences.

Table 1. Structure of the survey (source: developed by authors)

Part of the survey	Description		
	Type of the questions	Evaluation scale	Codes
A: General Questions	Closed	Multiple Choice	A_1-A_6
B: Attitude and opinion towards sustainable development principles	Closed	1-strongly disagree, 5-strongly agree	B_1-B_17

The internal consistency of measurement scales was checked using the calculation of Cronbach's alpha (Table 2).

Table 2. Internal consistency of measurement scales (source: developed by authors)

Labels of statements	Cronbach alpha if item deleted
ESD policies are integrated	.906
The learning should be in line with present life	.906
Educators should be empowered	.906
Young people are key actors	.913
Local communities are important	.910
HEI should track issues regularly	.905
Curriculum should be multidisciplinary	.903
Diverse partners should be found	.907
ESD should transform society	.903
Education is learner-centred	.905

End of Table 2

Labels of statements	Cronbach alpha if item deleted
Sustainability issues are integrated	.906
Graduates contribute to societal transformation	.904
Holistic approach on learning content	.903
Graduates take actions for change	.904
Graduates promote alternative values	.905
Graduates use emerging technologies	.902
Learning process should be reoriented	.903

Results showed .912 Cronbach's Alpha coefficient, which confirms excellent survey consistency. The analysis of the measure "alpha if item deleted" pointed to adequate relevance of all statements.

4. Results and discussion

The results of the analysis of attitudes and opinions towards the introduction of education for sustainable development principles into the process of higher education are presented in Table 2. Respondents were asked to express their attitude to 17 questions related to the introduction of sustainable education principles into the process of higher education and rate their attitude based on the Likert scale, where 1 stands for strongly disagree, and 5 for strongly agree. The table includes the respondents' opinions regarding their agreement with the introduction of the principles of sustainable development in the process of higher education.

Table 3. Highest evaluation of respondents towards introduction of the principles of sustainable development in the process of higher education (source: developed by authors)

Labels of statements	Evaluations "4" and "5"
ESD policies are integrated	87%
The learning should be in line with present life	81%
Educators should be empowered	94%
Young people are key actors	82%
Local communities are important	92%
HEI should track issues regularly	87%
Curriculum should be multidisciplinary	81%
Diverse partners should be found	84%
ESD should transform society	85%
Education is learner-centred	87%
Sustainability issues are integrated	76%
Graduates contribute to societal transformation	89%
Holistic approach on learning content	87%
Graduates take actions for change	89%
Graduates promote alternative values	68%
Graduates use emerging technologies	89%
Learning process should be reoriented	85%

As it is represented in Table 3, respondents, in general, show a positive attitude towards the introduction of the principles of sustainable development in the process of higher education, as the lowest percentage of the respondents who expressed their opinion with "4" and "5" was for the question "HEIs should ensure graduates to be able to trigger structural transformations in today's economic and social systems by promoting alternative values", as 68% evaluated this statement with "4" or "5". However, 14 questions from 16 were evaluated with higher evaluations by more than 80% of respondents which in general shows a very positive attitude towards the introduction of the principles of sustainable development in the process of higher education.

Apart from the analysis of higher evaluations, the following hypothesis was stated:

Academic staff from Ukraine tends to evaluate the importance of introduction of sustainable development principles into the education process in higher education institutions at the lower level then the respondents from EU.

This hypothesis emerged due to the following statements: military operations are currently taking place in Ukraine, and it is likely that the priorities for the development of higher education may be aside from the priorities for the implementation of ESD principles. When restoring the country, first of all, the restoration of infrastructure takes place, for which significant funds are spent. Ensuring sustainable development in this case may be secondary.

To test the hypothesis, Kruscal – Wallis test was used. For the analysis, all 17 answers from three Higher Education Institutions were compared. Results of the Kruscal – Wallis test is represented in the Table 4.

Table 4. Results of Kruscal – Wallis test (source: developed by authors)

Labels of the statements	Kruskal-Wallis test, statistical significance
ESD policies are integrated	.060
The learning should be in line with present life	.119
Educators should be empowered	.247
Young people are key actors	.858
Local communities are important	.036
HEI should track issues regularly	.111
Curriculum should be multidisciplinary	.632
Diverse partners should be found	.903
ESD should transform society	.551
Education is learner-centred	.598
Sustainability issues are integrated	.846
Graduates contribute to societal transformation	.547

End of Table 4

Labels of the statements	Kruskal-Wallis test, statistical significance
Holistic approach on learning content	.907
Graduates take actions for change	.863
Graduates promote alternative values	.504
Graduates use emerging technologies	.757
Learning process should be reoriented	.506

The results showed that, there is no statistically significant difference between the answers of respondents from Kyiv National University of Technologies and respondents from other HEIs. Based on the results, hypothesis is rejected.

This means the introduction of education for sustainable development (ESD) principles into the process of higher education in Ukrainian HEIs has the same value according to the perception of local academic staff as to academic staff of EU countries and may foster the resilience of the country's HEIs.

As mentioned, the survey respondents were 62 academic staff representatives from Lithuania, Latvia, and Ukraine, 83% of them were females and 17% were males, most (89%) were 30–59 years old, working experience was disseminated rather equally, with 37% of 10–19 years of working experience, 32% of those working more than 10 years and 31% of those working more than 20%. It makes us able to conclude the sample size represents an average portrait of mentioned countries' teachers – for example, the average age of teachers in Latvia is 48 years and 51% of them are older than 50 years, 89% of teachers in Latvia are females (Tvnet, 2024). Average age of teachers in Lithuania is 56,9 (OECD average is 39,4) (OECD, 2024), and 84,2% of them are females (OECD, 2016), average age of teachers in Ukraine is 44.7 and 84% of them are females (Lysova, 2018).

In conclusion, we can say with confidence that the most important result of the pilot study was the agreement of the majority of survey respondents with the necessity of introduction of ESD principles into the process of higher education in an order to establish its resilience.

These principles should become a part of global, regional national, and supranational policies related to education as an industry and contribute to its sustainable development. The UNESCO (UNESCO, 2020) approach "we learn what we live and live what we learn" should be adopted by the higher education institutions on a way to their digital and green transitions. However, the educators themselves also should be empowered with the knowledge, skills, values, and attitudes needed for the maintenance of the sustainability of their educational institutions. It should be noted, the youth should be perceived as a key factor in reaching the sustainability challenges and associated as a main contributor to the decision-making process. Local communities and the prerequisites of their sustainable development of the future play a pivotal role in transformative actions for the society. The role of the teaching staff is vital and enormous, so they have to be competent, regularly expand their horizons, and increase their skills regarding the sustainability of the world around them, moreover, they have to regularly track issues on education and sustainable development and mobilize resources through making study curriculum multidisciplinary. The cooperation network between an HEI, and its local and international partners both from the academic and business environments should expand continuously, and the resilience of education institutions should be fostered through mobilizing resources and searching for diverse partners. Management of HEIs has to understand its leading role in ESD policies, which should lead to societal transformation. Effective Education for Sustainable Development (ESD) requires appropriate pedagogies that engage learners in transformative learning (Howell, 2021), it should employ principles of interactive, project-based, and learner–centered education. Sustainability should be integrated into all aspects of education and training. It calls on HEIs to make learning for the green transition and sustainable development a priority in education (European Commission, 2023), learning content should integrate sustainability issues, such as global warming. The graduates should take responsibility for present and future generations and their contribution to societal transformation should be active. The only possible way to bring a fundamental behavioral shift to sustainable development is to perceive EDS as a holistic approach to learning content and pedagogy. That is why HEIs should make graduates capable of understanding sustainability challenges, feeling aware of their relevance to the surrounding realities, and taking action for change. Graduates should not be afraid to become triggers of structural transformations in today's economic and social systems by promoting alternative values and addressing the new opportunities and risks posed by emerging technologies (such as AI). The management of HEIs should understand the emerging need to renavigate the learning process to the pole of sustainable development and to strengthen education in all kinds of related activities to promote sustainable development.

5. Conclusions

SDG4, "Quality Education" serves as a basement for the achievement of all other pillars of sustainability due to its main focus on qualitative and competitive education thus ensuring society by skilled professionals aimed to maintain a prosperous and sustainable future. SDG8, on its side, is devoted to fostering the sustainability of HEIs as business organizations with their satisfied academic staff (employers) ensuring overall economic growth of the industry. By focusing on SDG8, HEIs also become the hubs for research and innovation, entrepreneurship drivers, and promote social equity and stability thus contributing to the overall well-being and resilience of the society. Thus, considered together as the light-houses of HEI sustainability, these two pillars bring both customers (students and other stakeholders) and employees (academic staff) satisfaction, enrich business processes, ensure financial resilience, foster innovation, and long-term development of the industry through education for sustainable development.

ESD is much more than just a provision of education, it's a process of economic, environmental, and social responsibility principles integration into the curriculum and institutional practices. Teachers associated with ESD motivate students to ask questions, provide analysis, apply critical thinking, and make the right decisions. Such teachers move from a teacher-centered to a student-centered approach and replace memorization with participatory learning (UNESCO, 2016).

Accordingly, to implement a sustainability approach into the educational context, it is required to start upgrading the competencies of teaching staff, to raise their sustainability awareness and to acquire relevant teaching skills. Only qualified teaching staff can implement sustainability throughout the educational process.

As a part of Agenda 2030, the concept of ESD takes into consideration an action-oriented and innovative teaching approach to enable students to develop knowledge, skills, and values that contribute to their transformation and, indirectly, to the transformation of society at large into more sustainable and innovative. Guided by the objectives of the ESD framework, HEIs are obliged to transform their curricula into multidisciplinary ones in an order to ensure a deeper understanding of sustainability principles across multiple environmental factors and foster students' competencies in various areas, such as finance, human resources, production, and action competencies. The priority in the education approaches should be given to more practical study processes, including internships, research projects, and stakeholders engaging initiatives – all actions where students can apply sustainable principles in real-world contexts and develop practical problem-solving skills. This holistic approach advances the careers of future graduates in line with the achievement of SDG goals, and fosters the mindset of lifelong learning and active citizenship, thus contributing to the culture of sustainability within and beyond HEIs as an industry.

In general, combining student-centred teaching approaches with a nurturing learning atmosphere that corresponds to Sustainable Development Goals (SDGs) not only enriches students' academic journeys but also equips them to emerge as worldly individuals capable of impactful contributions toward a more sustainable and fair society. By enveloping students in an environment where they can actively participate in SDGs, Higher Education Institutions (HEIs) play a vital part in moulding the forthcoming cohort of leaders and catalysts for change. Failure to adopt ESD as a part of study curricula might lead to a decrease in the development of society, worsening of environmental conditions, and concentration on momentary profit-making strategy thus losing hope in the blooming future of our children.

Benchmarking factors for implementing ESD principles in universities may vary depending on the goals of each HEI and environmental context. According to Caeiro et al. (2020), the introduction of benchmarking tools could serve as drivers to HEIs to improve their sustainability performance and their role as agents of changes.

There might be several common benchmarking factors, such as:

- Integration of sustainability concepts into curriculum across various disciplines;
- Training and support, provided to faculty members to incorporate ESD principles into their teaching methodology and course content and its evaluation;
- Students' involvement in sustainability-related initiatives (such as projects, and research activities) and their measurement;
- HEIs' efforts to reduce its environmental footprint through sustainable practices in areas like energy use, waste management;
- HEI's engagement with the local community to promote sustainability awareness and address regional challenges;
- Support research and innovation, related to sustainability;
- Evaluation of HEI's collaboration with the stakeholders to enhance its impact on sustainable development efforts;
- Development of institutional strategies to support the integration of ESD principles into university operations;
- Establishment of mechanisms for monitoring and evaluation of the ESD initiatives' effectiveness
- Tracking the impact of ESD education on students' knowledge, attitudes, and behaviour related to sustainability goals.

By benchmarking these factors, HEIs can identify their strengths and weaknesses as well as areas for improvement in their way to implement ESD principles effectively.

The research states the hypothesis that Ukrainian academic staff is evaluating the importance of ESD principle's introduction into the education process at a lower level than staff from Latvia and Lithuania. However, the results showed that there is no statistically significant difference between the answers of respondents from Kyiv National University of Technologies and respondents from other HEIs. Based on the results, the hypothesis is rejected.

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Contribution

The idea of the paper belongs to J. Dehtjare, she was also responsible for survey design, its dissemination in Latvia and conclusions design. R. Kinderis and L. Hanushchak-Yefimenko were responsible for survey dissemination in Lithuania and Ukraine. K. Užule's contribution consists of an introduction and literature review, J. Mironova's area of responsibility was the methodology and results.

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