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EDUCATION FOR SUSTAINABLE DEVELOPMENT IN POLISH INSTITUTIONS OF HIGHER EDUCATION – PRESENT AND FUTURE

IN MEMORY OF PROF. BAZYLI POSKROBKO.

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ABSTRACT: Education for sustainable development is still developing as a broad and comprehensive concept that includes related content on the environment, economy and society. Key issues of sustainable development include, among others, economic issues, production and consumption models, natural resource management, environmental protection, development models, poverty reduction, civic rights, democracy, governance etc. These issues are very diverse and require a holistic approach to teaching. The objective of this article is to diagnose and evaluate the current state of education for sustainable development in Polish higher education institutions, with particular emphasis on the EU in Katowice and to identify the directions of change. This article was written based on the Authors' many years of scientific and teaching experience. It was also supported by a survey conducted in the year 2020/2021 among the students at the University of Economics in Katowice, which allowed them to identify directions for future educational activities.

KEYWORDS: sustainable development, higher education, education for sustainable development

Introduction

Education for sustainable development has now become one of the most critical challenges of the UN and the EU (UNESCO, 2007; UNESCO, 2009; Leicht et al., 2018; UNESCO, 2020; Geryk, 2018; Nizinska & Kurantowicz, 2019; Alcantud-Diaz, 2021; Leal Filho et al., 2021). The targets to be pursued in this education are to integrate principles, values and practices around sustainable development (SD) in all aspects of education and training.

The implementation of the goals should lead to behavioural changes that create a more sustainable future, consisting of natural integrity, economic vitality and social activity for the needs of present and future generations. Poland is actively involved in the realisation of these objectives through the relevant provisions contained, among other things, in the *2030 National Environmental Policy*. These actions fall into a period of rapid economic changes, especially in recovering from the Covid-19 pandemic.

This period is linked, among other issues, to Poland's involvement in the disbursement of approximately €35.970 billion under The National Recovery Plan (NRP). Hence, the disbursement of funds must be in line with the constitutional principle of sustainable development, favouring an integrated approach to selected projects that seek to improve resource efficiency and environmental quality. Implementing these intentions will require the presence of university graduates in the labour market who are aware of and educated in the area of sustainable development.

Higher education reform is a strategic challenge for the development of the Polish economy, allowing the undertaking of such research directions that may support the search for solutions to economic, ecological, technical and social problems. A prerequisite for the success of this reform is an international cooperation with various entities, as this will support systemic and interdisciplinary solutions that are fundamental instruments for sustainable development.

Despite the tremendous changes that have taken place in Polish universities, the introduction of sustainable development issues into the curriculum is still not an easy matter. At the same time, it should be emphasised that graduates and young PhDs leaving universities are, after all, potential leaders equipped with knowledge and experience of sustainable development who will co-create several institutions and companies active for this development, not only in the Polish economy but also in other countries of the world (Sady et al., 2019). Thus, the question arises as to whether Polish higher education institutions properly prepare their graduates for these tasks. Moreover, does the education on sustainable development provide students with up-to-date knowledge about future directions of innovative actions in managing natural resources and thus countering adverse climate change?

Therefore, to answer this question, the Authors researched the evaluation of building the foundations of active education for sustainable development at a selected higher education institution, i.e. the University of Economics in Katowice. This article was written based on the Authors' research concerning education for sustainable development (Lorek et al., 2008; Lorek & Słupik, 2010; Lorek & Gierczycka, 2010; Lorek & Sobol, 2010; Lorek, 2011; Lorek, 2013; Lorek & Olszak, 2013) and many years of teaching experience in subjects such as "Environmental Management" and "Economics of Sustainable Development" at the University of Economics in Katowice and Higher Silesian School of Management in Katowice. In addition, a survey was carried out in the year 2020/2021 among the students of this university that made it possible to identify directions for future educational activities in the area of sustainable development.

Evaluation of provisions on education for sustainable development in Polish government documents

The content of Act illustrates the importance of education for sustainable development. 77 of the Act of 27 April 2001 Environmental Protection Law (Journal of Laws 2017, item 519 as amended) indicates that environmental protection and sustainable development issues are included in the core curriculum of general education for all types of schools. The primary government document that contains provisions on education for sustainable development is the *2030 National Environmental Policy*. This policy includes the following conditions regarding the medium-term goals to be achieved in the field of education:

- continuous raising of the environmental awareness of society, to guarantee broad access to information on the environment and its protection,
- increasing the number of people taking conscious consumer decisions, taking into account the need to protect natural resources,
- creating a platform of cooperation with non-governmental ecological organisations by supporting the activities of these organisations.

The indicated policy's directions include supporting education projects for sustainable development carried out by various entities and promoting attitudes based on the idea of development and responsible consumption (Resolution of the Council of Ministers, 2019).

Based on a review of government documents on education for sustainable development, it is evident that there is no single formalised cooperation structure for education for sustainable development. This is considered one of the most significant barriers to its development. The Ministry of Education and Science's guidelines for introducing education for sustainability in higher

education institutions are very general and only apply to specific fields of study. However, the elements of sustainability should be included in the curricula of all areas of study. There is no current document on education for sustainable development in Poland. All previous records, such as *the National Strategy of Ecological Education* (a strategy from 2001 that has not been updated; there is also no document replacing it), did not take into account the current conditions for sustainable development, especially as regards climate policy and the very related energy policy. In addition, there are no systematic measures to assess the level of education for sustainable development in formal and informal education. Moreover, the Central Statistical Office does not keep statistics on education for SD.

The Core curriculum defines the obligation to introduce SD issues at all levels of education. This document indicates the implementation of curricula using practical methods, experiences, analysis, and problem-solving. At the university level, SD includes courses in environmental studies, tourism, sociology and social policy; at economic studies – courses in macroeconomics, marketing and monetary policy. It should be emphasised here that universities have complete autonomy in curriculum development. In higher education, SD and related issues are mainly found in the natural, agricultural, forestry and veterinary sciences. The only guideline for many years defining the necessity of SD education at the university level is contained in the National Qualifications Framework. This document is general, and education for sustainable development is only present in some fields of study. No nationwide standards specify the necessity of education in SD in all areas of study.

The environmental education provisions in higher education indicate the primary objective of environmental education, i.e. to introduce future graduates of all higher education institutions to ecological issues. Accordingly, environmental knowledge is to be imparted so that graduates acquire basic knowledge in scientific fields such as natural, technical, economic and social sciences. In other words, it should shape graduates' holistic thinking about economic growth, quality of life and environmental protection to implement sustainable development (Von Hauff & Ngujen, 2014; Buchcic, 2016; Korwin-Szymanowska et al., 2016).

Despite the passage of many years since the strategies above were incepted, only a limited number of studies provide comprehensive knowledge of sustainable development. The observed phenomenon brings about a situation wherein graduates of biological and technical studies often take an extreme position in matters of the broadly understood "environment" – either extremely technical or natural/environmental – without understanding the socio-economic conditions.

The article's authors encountered this issue while preparing opinions for prosecution regarding specific irregular waste management in Silesian cities.

From these experiences, it is evident that there is a lack of educated university graduates capable of preparing proper economic analyses in the field of, for example, assessing the eco-efficiency of waste management, consistent with the principles of sustainable development. Therefore, the objectives set out in the *National Strategy of Ecological Education* to ensure that universities educate students comprehensively by the principles of sustainable development are still valid and still not met.

Universities should, therefore, issue and promote textbooks and scientific publications treating environmental protection problems in the philosophy of sustainable development. In this area, such scientists as Professors Bazyli Poskrobko, Bogusław Fiedor, Andrzej Graczyk, Tadeusz Borys, Eugeniusz Kośmicki, Kazimierz Górka, Tomasz Żylicz and others play a leading role in Polish higher education.

Educational activities and challenges for sustainable development in higher education

Education for sustainable development means much more than environmental education. It also includes human rights, conflict resolution, good governance, economics, culture and the arts. It goes beyond formal education systems but should influence them, as reflected in textbooks, curricula and teaching methods (Franco et al., 2018; Sady et al., 2019). Currently, the main fields of higher education in Poland mainly concern:

- 1) internationalisation – the inclusion of international and inter-cultural issues in educational programs (e.g. using an instrument such as the Bologna Process),
- 2) research interdisciplinarity – e.g. by implementing research programs under the EU Framework Programs or other,
- 3) virtualisation – e.g. research and teaching programs implemented using modern information technologies (such as distance learning).

It should be added that the Bologna Process aims to create competitive knowledge communities. To this end, in 1999, 29 European countries signed the so-called 'Bologna Declaration' to achieve a shared space for higher education in Europe. The Bologna Declaration is being extended to non-European areas of higher education and, together with the EU Strategy for Central Asia, focuses on bilateral and regional initiatives, systematic political dialogue and economic, transport, energy, environmental and educational cooperation. Herein, higher education develops international cooperation through:

- a) carrying out student exchanges, mainly within the Erasmus program,
- b) implementing study programs in cooperation with foreign universities (studies under the Erasmus Mundus program),

c) participating in international associations, thematic networks, university unions, and multilateral projects.

Among the forms mentioned above of cooperation in undertaking activities for sustainable development, the final form plays a unique role, creating perfect conditions for scientific and educational collaboration (The Copernicus Alliance). Accordingly, the part of university courses is to familiarise students with the existing state of knowledge, with an indication of what we already know and what we do not know, with the communication of for and against, or positive and negative arguments.

Researchers' predictions indicate that sustainable development, especially the economics of sustainable development, will be the leading area of economic research in the third decade of the 21st century. Initially, it will develop in parallel with knowledge of economics to form a new science. Education for sustainability promotes good co-governance, sustainable consumption and production patterns, and the transmission of values and culture, reinforcing institutional sustainability (Barth et al., 2007). Without sustainability, it is challenging to change development goals and weak institutions without the help of education and science. Thus, education is an element of good co-governance because it stimulates public participation, transparency, accountability and political stability.

It is also vital in creating institutional capital and building capacity for institutional change. Education has a variety of functions about the effective functioning of institutions and institutional structures of co-governance and the activity's social, economic and environmental outcomes. It creates skills, knowledge, and human capital, essential factors of production, innovation in production technology and organisational structures. The ability to seek, process and interpret information reduces problems with asymmetric information and creates an understanding of sustainability issues. Education for sustainable development forms the basis for making, assimilation and disseminating knowledge. It facilitates access to institutional structures for co-governance and the full exploitation of the economic and social potential of property rights. Moreover, it enables the enforcement of these rights and the minimisation of adverse environmental externalities.

Realistically looking at educational programs at this level of education, the scenario to provide every student with a set of desirable knowledge in this area seems unworkable. A more down-to-earth method is inspiring lecturers to refer more widely to relevant examples in the implementation of sustainable development in the economies of Western countries, especially European. Compared to other countries, Poland has achievements in this area and its failures and weaknesses. The latter include that education – considering sustainable development issues – is not yet systemic in our country (Lorek & Olszak, 2013).

Education for sustainable development is based on 'warm' values –empathy, honesty, kindness, respect for dignity, and truth. According to Borys (2010), the main challenges facing education for sustainable development are solving the following problems:

- 1) unambiguous disclosure of the new development paradigm in the instruction for the sustainable development system,
- 2) combining education for a sustainable quality of life with education for sustainable development – into an integrated system,
- 3) the prominence of culture as a link to education for sustainable development,
- 4) systemic transfer of international initiatives supporting education for sustainable development to the national level, and coordination of Polish activities in the field of education for sustainable development (Borys, 2010).

As indicated above, education for sustainable development has not been systemic in Poland so far; the lack of interest in this global commitment of the political sphere at the national, regional and local levels is also noteworthy. The absence of an action plan enacted in Poland for implementing the Decade of Education for Sustainable Development (2005-2014) contrasts with the actions of other European countries, especially Germany (Borys, 2010; Kędzierska et al., 2013; Von Hauff & Nguyen, 2014).

An example of an organisation working for international cooperation in the EU is the European Environmental Advisory Council (EEAC), tasked with improving Europe's sustainable development strategy. This Council promotes public engagement, interdisciplinary research on sustainable development and transgenic cooperation for future generations.

Initiatives worth mentioning in the context of the practical integration of education for sustainable development into university curricula include the series of conferences: 'Education for Sustainable Development. The most recent was the VII International Conference entitled 'Education for Sustainable Development, which took place in October 2009. This conference was organised by the Jelenia Góra Faculty of the Wrocław University of Economics in cooperation with the Polish-German Network of Scientists for Sustainable Development, the European Association of Environmental Economists – Polish Branch and the State Council for Environmental Protection.

It brought together over 140 representatives from more than 40 scientific centres from all over Poland (universities of economics, agriculture, technical universities), politicians, journalists, minist of ministries, UNESCO, several NGOs, special purpose funds and representatives of German universities. The conferences in this series provided an essential forum for exchanging experiences between individual centres, and it would be worth considering their reactivation. The meeting resulted in a publication entirely devoted

to the issues of education for sustainable development (Borys, 2010; Poskrobko, 2010a; Brzozowski & Rogala, 2010; Bartniczak & Zaremba-Warnke, 2010).

Education for sustainable development in universities – a literature review

The role and importance of education for sustainable development in higher education institutions are discussed in Polish and foreign literature in many publications, diverse in their character and objective. A unique role and momentous significance, especially in the didactic process, is attributed to textbooks and other compact developments similar in purpose. In the case of Polish publications, the following books on sustainable development and environmental management should be mentioned in particular:

- fundamentals of environmental and natural resource economics, edited by Bogusław Fiedor, Publisher: C.H. Beck, Warsaw 2002,
- sustainable development economics. Theory and practice, by Holger Rogall (Zysk i S-ka Publishing House 2010), or
- economics and management in environmental engineering, by Elżbieta Broniewicz, Joanna Godlewska, Agata Lulewicz-Sas and Rafał Miłaszewski, published by the Publishing House of the Białystok University of Technology in 2019.

Professor Bazyli Poskrobko's enormous contribution to education for sustainable development (SD) needs to be emphasised. It has been expressed, among other things, in several special publications; in particular, the Environmental monograph management, edited by the Professor in 2007 (by PWE), and the works: Economics of sustainable development: an outline of research problems and didactics (Poskrobko, 2010) and Theoretical aspects of sustainable development economics (Poskrobko, 2011), as well as the work by Bazyli and Tomasz Poskrobko entitled Environment management in Poland, published by the University of Białystok in 2012.

As indicated above, professors such as Tadeusz Borys, Kazimierz Górka, Andrzej Graczyk, Eugeniusz Kośmicki, Tomasz Żylicz have also made significant contributions to education to sustainable development in Poland.

Currently, education for sustainable development is one of the most fundamental challenges for the United Nations and the European Union, emphasised in the above-mentioned Polish publications and foreign literature (e.g. Rosen, 2020; Alcantud-Diaz, 2021; Leal Filho et al., 2021).

Analysing the foreign literature on education for sustainability in higher education, it is noted that, in addition to developments of a textbook and

guidebook nature (e.g. Barth et al., 2015; SDSN Australia/Pacific, 2017; UNESCO, 2020; SDSN Italia, 2021), the following can also be distinguished:

- a) scientific publications generally dedicated to the role and importance of this education, its axiological, social and economic foundations, as well as the outcomes that should be achieved in the process of this education (e.g. Barth et al., 2007; Shephard, 2008; von Hauff & Nguyen, 2014; Owens, 2017; Franco et al., 2018; Leicht et al., 2018; Parricchi, 2018; Finnveden et al., 2020; Alcantud-Diaz, 2021; Blasco et al., 2021),
- b) publications devoted to the identification or analysis of the curricular basis of education for sustainable development in universities (e.g. Sady et al., 2019; Leal Filho et al., 2021),
- c) publications providing an overview of good practices in this education in different countries (e.g. Aleixo et al., 2016; Calvano, 2017; RUS, 2017; Sonetti et al., 2020), as well as
- d) publications containing case studies on the indicated subject based on research carried out in one specific university (e.g. Di Gerio et al., 2020; Calvano, 2021; Chaleta et al., 2021; De Vincenzo & Riggo, 2021).

The latter group includes the present study, prepared based on research on education for sustainable development conducted among students at the University of Economics in Katowice.

Assessment of education for sustainable development in the light of surveys conducted among the students at the University of Economics in Katowice

The direct research concerned students of a higher education institution with an economic profile, namely, the University of Economics in Katowice. The indicated investigation aimed to identify and assess the state of education for sustainable development, with a particular focus on social and environmental issues, as well as ascertaining students' attitudes towards selected problems related to sustainable development. It was carried out in the academic year 2020/2021 as part of the statutory research of the Department of Social and Economic Policy entitled *'Selected social and environmental components of sustainable development of the Silesian agglomeration. Stage 1: The importance of educational policy for implementing the sustainable development strategy under Dr hab's supervision of dr hab. Agnieszka Lorek, professor at the University of Economics in Katowice.*

Based on the previous research of the article's authors (Lorek et al., 2008; Lorek & Ślupik, 2010; Lorek, 2013), the following research hypothesis has been formulated: education for sustainable development in the EU Katowice is not comprehensive.

The survey in the academic year 2020/2021 was addressed to people using the Internet, who filled it out on their own using the survey link that they received. The links were posted on the Google platform. Two hundred undergraduates completed the survey questionnaire, and postgraduate students (full-time and part-time) of the University indicated above.

The survey questionnaire presented to the respondents was divided into three areas: environmental education, social education, and the linking area of sustainable development. The following results were obtained through questionnaire surveys among the students of the University of Economics in Katowice:

1. More than 61% of all respondents perceive the presence of environmental topics in the teaching content (in the 2020/2011 survey, this was 79%). More than 82% of all respondents came into contact with social issues during their studies.
2. 72% of the students participating in the survey in question believe that knowledge of the environmental determinants of economic development is indispensable in the process of education in economics (in the study conducted in the 2010/2011 academic year, the figure was 89%). Similarly, 79.5% consider familiarisation with social problems to be necessary.
3. 57% of the surveyed students state that the information on environmental conditions for economic development provided within the current curriculum is insufficient. At the same time, 49.5% of all respondents consider information on social issues inadequate.
4. The topics that were least discussed during the classes were (in all cases, according to about 50% of the respondents):
 - in the field of the environment: water management and ecosystem services and loss of biodiversity,
 - in the field of social issues: green jobs, inclusive social programs and protection of cultural heritage.
5. Among the topics discussed, according to the respondents, to a sufficient extent, the most frequently indicated cases were: ways of managing natural resources, sustainable development of transport (environmental sphere), social security, active labour market policy (social sphere) with, in these cases, the level of indications varying between 33 and 39% of the respondents.
6. At the same time, the respondents could indicate issues they would like to learn more about. The most frequently mentioned topics were:
 - climate change and its impact on the economy and society,
 - waste management,

- ways of managing natural resources – this topic was considered one of the best discussed, but the students found it worthy of an even more extensive discussion,
 - problems of poverty and social exclusion,
 - principles of the functioning of social insurance,
 - active labour market policy,
 - green-collar workers – a topic considered one of the worst discussed, worth devoting more attention to.
7. Approximately 86% of the students surveyed in the 2020/2021 academic year correctly understand the term “sustainability” (in the 2010/2011 survey, this was as high as 95.8%), and 53% had encountered the time during their studies (in the earlier survey 90.1%).
 8. More than half (51.5%) of the respondents believe that a separate subject on sustainability, introduced as a specialised, elective subject, is needed (around 74% of all responses). Most of the students surveyed do not know the availability of literature on sustainability issues.
 9. The educational process should also translate into personal action. Among the pro-environmental and pro-social activities undertaken by students, the most frequently mentioned were:
 - segregation of household waste (91.4% of responses),
 - saving water (79.7%),
 - resignation from foil bags (75.1%).

On the other hand, social and civic activities such as volunteering (4.1% of all indications) or participation in social consultations (1%) are relatively unpopular among the respondents.

To sum up – the majority of the surveyed students of the University of Economics in Katowice state that the education process at the university raises awareness of issues related to sustainable development (51.8% of all such statements); at the same time, still there are spheres and topics that, due to the existing challenges of civilisation, should be discussed to a greater extent.

When assessing the curricula of the University of Economics in Katowice about the implementation of education for sustainable development, it should be noted that since 2007, several subjects related to this topic have been eliminated at the faculties of Economics and Management; such issues were also stopped at the Faculty of Finance and Insurance. This has decreased the percentage of students able to interpret the term ‘sustainability’ correctly. Currently, the subject is covered to the greatest extent by the Spatial Management course at the Faculty of Economics. It should be added that in the 2022/2023 academic year, the University of Economics in Katowice is planning to launch a new specialisation, ‘Green management in public economy’, within the Public Management course of study. The field is intended to equip

graduates with knowledge and skills for solving the complex problems faced by society, the environment and the economy today. The 'Green management in the public economy' specialisation also provides students with a scientific understanding of ecological and social systems applicable to governance or sustainable development policy-making.

Sustainability and green management need to be present in almost all sectors: from the public sector to modern industries, agriculture, energy, and traditional manufacturing. For large enterprises, dealing with this challenge is no longer an alternative but an urgent need for managers who want to use their commitment to an innovation-inspired career.

University courses in green management will provide the tools to handle the change in both the public sector and enterprises, thus contributing to transforming an element of organisational culture into a factor supporting economic objectives. The specialisation is intended to train new managers of green transformation, inspiring executives, professionals and eco-entrepreneurs who want to be the source of new ventures and green start-ups.

Conclusions

In Polish higher education institutions, the implementation of educational activities for sustainable development remains an arduous undertaking. In many countries of the world, mainly European, the main objective is – firstly – to introduce the issue of sustainable development into the national educational systems and educational policies of the countries, and secondly – to raise awareness of the importance of sustainable development assumptions among the various stakeholders of civil society: the media, social and non-governmental organisations, the private sector and education. The European form of achieving the objectives was developing a Strategy on Education for Sustainable Development by the United Nations Economic Commission for Europe (UNECE). This strategy addresses the following issues: human rights, health, cultural diversity, peace, ethics, democracy, social justice, security, the economy, environmental protection and natural resource management.

Our country also participates in this educational program to provide appropriate conditions, creating financial assistance and support programs for education and research. Education for sustainable development forms the basis for making, assimilation and disseminating knowledge. It facilitates access to institutional structures for co-governance and the full exploitation of the economic and social potential of property rights. It enables the enforcement of these rights and the minimisation of adverse environmental externalities. Well-educated graduates should understand sustainability in suffi-

cient depth to know how to include natural capital in economic analyses and build scenarios with a chance of social acceptance. In-depth sustainability knowledge should be transferred, especially at the third level of education. An increasing number of doctoral and post-doctoral theses include the basic assumptions of sustainable development in their title and content.

In general, this education takes place in many Polish universities. Assuming that the importance of the sustainable development paradigm (as a constitutional principle) is appreciated, the future of economic education should also be related to the inclusion of this subject matter in the curriculum minima. At present, however, it is difficult to find a 'trace' of this concept in the curriculum minima of economic studies. Nonetheless, the subject is included in the curriculum minima of technical and natural science faculties.

Universities are centres for acquiring practical knowledge and experience in sustainable development, thus creating opportunities for meetings and cooperation between students of different faculties and universities and completing the formal side of education for sustainable development. The research shows that there is still a need to remove barriers to existing behaviour in implementing sustainable development. This should be fostered by qualified academic teachers and foreign exchanges with other academic centres. Educated academics, especially members of the Polish and European Association of Environmental and Resource Economists and the international Polish-German Network of Scientists for Sustainable Development, guarantee professional education in sustainable development. The Authors' observations show that at universities where academic teachers are employed – who are also members of the Polish Association of Environmental and Resource Economists – the students' knowledge of the topics mentioned above is very extensive. Yet, it needs to be emphasised that for sustainability education to be effective, monitoring of the effects of sustainability measures is required, as well as the availability of active sustainability education provided by both public and non-public universities (COPERNICUS-CAMPUS, 2022; SDSN Australia/Pacific, 2017).

The contribution of the authors

The article was written in collaboration with all authors.

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