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# STUDIA ECOLOGIAE ET BIOETHICAE



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## Using the Knowledge Acquired During Studies in Shaping Attitudes Towards Sustainable Development

Wykorzystanie wiedzy ze studiów w kształtowaniu postaw na rzecz zrównoważonego rozwoju

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**Abstract:** Thanks to active education for sustainable development at universities, it is possible to prepare teachers ready to educate future generations of Polish learners on the one hand, and conscious economists, as well as political and social decision-makers able to introduce the principles of sustainable development in all spheres of human life, on the other. The aim of the research was to find out about the opinions of Polish students on how the knowledge acquired by them during their studies may shape their attitudes towards sustainable development. The research instruments used were a diagnostic survey method, with the help of the questionnaire technique. The research sample comprised 78 students representing the field of pedagogy studies, including 61.5% in the area of teacher studies (preschool and early school education) and 38.5% in the area of non-teaching studies (i.e., students without pedagogical qualifications, that is, educators who do not follow the core curriculum of general education (observed in the Polish context of higher education); such graduates perform educational and caring functions). A large percentage of respondents confirms the presence of the content related to sustainable development in their study programs, although its implementation is reported to occur to a small extent (marginally) only. The respondents who take into account the issues of sustainable development are involved to a greater extent in teacher education within the field of preschool and early school education. As part of the training activities for future teachers of kindergartens and primary school, grades 1-3, the teaching content has been integrated (with a module of socio-natural education being separated) that contains detailed learning outcomes evidently subordinated to the content of sustainable development. Although a clear difference in the use of knowledge in this area between students of teaching and non-teaching fields of study can be observed, it is still necessary to include the sustainable development related knowledge in the curricula of various study subjects, which will certainly affect the development of social capital, and thus education of people socially and environmentally responsible for their actions.

**Keywords:** education, sustainable development, social and natural education

**Streszczenie:** Dzięki aktywnej edukacji dla zrównoważonego rozwoju na uczelniach, możliwe jest przygotowanie nauczycieli edukujących przyszłe pokolenia w polskim systemie oświaty oraz przygotowanie świadomych ekonomistów, decydentów politycznych i społecznych do wprowadzania zasad zrównoważonego rozwoju we wszystkich sferach życia człowieka. Celem podjętych badań była chęć poznania opinii polskich studentów na temat wykorzystania wiedzy ze studiów w kształtowaniu postaw na rzecz zrównoważonego rozwoju. Zastosowano metodę sondażu diagnostycznego, z wykorzystaniem techniki ankiety. Próba badawcza stanowiła 78 studentów reprezentujących kierunek studiów pedagogika, w tym 61,5% obszar studiów nauczycielskich (pedagogika przedszkolna i wczesnoszkolna) i 38,5% obszar studiów nienauczyielskich (bez uprawnień pedagogicznych, czyli pedagogzy, którzy nie realizują podstawy programowej kształcenia ogólnego).

nego (Observed in the Polish context of higher education). Absolwenci pełnią funkcje wychowawcze i opiekuńcze). Duży odsetek ankietowanych potwierdza występowanie treści dotyczących rozwoju zrównoważonego w programach studiów, aczkolwiek ich realizacja występuje w niewielkim stopniu (marginalnie). Przedmioty uwzględniające tematykę zrównoważonego rozwoju są realizowane w większym stopniu na studiach nauczycielskich na kierunku pedagogika przedszkolna i wczesnoszkolna. W ramach zajęć przygotowujących merytorycznie przyszłych nauczycieli przedszkoli i klas I-III szkoły podstawowej występuje integrowanie treści nauczania, wyodrębniono moduł – edukacja społeczno-przyrodnicza, zawierający szczegółowe efekty uczenia się ewidentnie podporządkowane treściom zrównoważonego rozwoju. Wyraźnie dało się zauważyć różnicę w posługiwaniu się wiedzą w tym zakresie między studentami kierunków nauczycielskich i nienauczycielskich, ale mimo tego konieczne jest włączenie jej do programów nauczania różnych przedmiotów, co z pewnością wpłynie na rozwój kapitału społecznego, a tym samym wykreowanie ludzi odpowiedzialnych społecznie i środowiskowo za swoje działania.

**Słowa kluczowe:** edukacja, zrównoważony rozwój, edukacja społeczno-przyrodnicza

## Introduction

The concept of sustainable development has been known for years; it has been presented in scientific literature and practically used in legal and other documents, including these of national and/or international character. Over the years, its definition has evolved, and, in this way, the concept has become the subject of various studies and approaches which has led to expanding the scope of discussed problems.

The basis for actions for sustainable development has been and still is the awareness of the threats resulting from the expansive character of the industrial economy, which results in the emergence of multiple warnings, debates and/or other processes leading to the development/shaping of the theory of the causes of threats. The historical outline of the concept indicates that the next stage of shaping the definition of sustainable development should consist in conducting appropriate reforms in the area of natural resource management, as – according to Meadows (Meadows and Randers 1995, 37) – the concept of sustainable development continues until the second stage of the diagnosis of the “limits of growth”. Today it is the international community that begins to mark the moral boundary of our freedom to exploit the natural environment. At this point, it is worth mentioning the words by U Thant, the Secretary-General

of the United Nations, who said at the XXIII session of the UN General Assembly (1969) that all members of the United Nations had about 10 years to settle down old disputes and undertake a joint global initiative to stop the arms race, improve human environmental conditions, and eliminate the threat of a demographic explosion, so as to be ready to give due momentum to development efforts. As U Thant aptly observed there is still a need for global cooperation; otherwise, man will not be able to control growing global environmental problems<sup>1</sup>.

The Brundtland Report, *Our Common Future*, played an important role in shaping a new way of thinking about the mutual links between people, economy and natural environment resources. Prepared in 1983 by the World Commission for Environment and Development at the United Nations and presented in 1987 by the Chairman

<sup>1</sup> The report *Problems of the human environment* made people aware of the global threat and became an impulse to start activities to protect the environment in most countries of the civilized world. In Poland, a year later, the Polish Committee for Human Environmental Protection was established by the Deputy Prime Minister; later it was transformed into the Environmental Protection Committee of the State Council, and then into the State Council for Environmental Protection. [https://pl.wikipedia.org/wiki/Raport\\_U\\_Thanta](https://pl.wikipedia.org/wiki/Raport_U_Thanta) – accessed 12.12.2021.

of the Working Group, a Norwegian politician Gro Harlem Brundtland, the Report in which the concept of sustainable development has become the central category, is recognized as an important step in organizing the relations between people and the environment.

Five years after the publication of the Report, at the Conference in Rio de Janeiro (1992) a resolution was raised, which resulted in preparation of documents adopted by the participating countries recommending the implementation of the sustainable development (SD) concept. In Poland, such recommendations appeared in most documents concerning environmental protection and in the Constitution of the Republic of Poland (Chapter One, art. 5: *The Republic of Poland (...) ensures environmental protection, guided by the principle of sustainable development*). At the Rio de Janeiro Conference, one of the most important documents related to sustainable development, *Agenda 21*, was developed. It contained a comprehensive plan of activities for the 21<sup>st</sup> century to be supervised by the United Nations, governments and social groups in every area where man has an impact on the environment. Poland's involvement in the implementation of the *Agenda 21* provisions laid the foundations for (ESD) education for sustainable development (Jagodzińska and Buchcic 2017, 267).

Further reflections on the Brundtland Report resulted in the organization of the 2<sup>nd</sup> Conference "Environment and Development", this time held in Johannesburg (2002). The revealed lack of effects of implementing the SD principles prompted the intensification of efforts and the announcement of the Decade of Education for Sustainable Development for the years 2005-2014, commissioning the coordination of UNESCO. As part of the activities of the Decade, the countries of the United Nations Economic Commission for Europe adopted another strategic document – the Education Strategy for Sustainable Development. In Poland, the "National Strategy for

Environmental Education through Education for Sustainable Development" has been developed. In 2012, representatives of over 100 countries met at the Earth Summit in Rio de Janeiro, entitled "Rio +20". The Summit brought the adoption of the document *The Future We Want*, which emphasized the importance of the three-aspect approach to the issues of SD; the document took into account the interconnection of three areas: social, economic and environmental, which generate different groups of issues for the ESD Strategy, adequately to the three above-mentioned perspectives (Jagodzińska and Buchcic 2017, 269).

As observed by Bałachowicz (2017, 21), the stage of social, cultural and economic transformation became particularly intensified at the turn of the 20th/21st centuries and is still being implemented with varying intensity in various areas of life, the area of education included. Education about sustainable development is now a permanent element of the process of upbringing, both in kindergartens and in primary and secondary schools.

Sustainable development (SD) in pedagogical theory is based on such paradigms as: constructivism, humanism, democracy and pragmatism. For this reason, the methods of education have been changed; now they are based on the learner's own activity, on providing tools for acquiring knowledge, and not, unlike traditional education, on providing ready-made content. This fact, concerning the topic discussed in this study, is important, especially in the context related to students of pedagogy, who will shape the attitudes of future generations towards sustainable development.

### **1. Involvement of students in the propagation of the idea of sustainable development in the education process**

A belief that education shapes attitudes, determines mental transformations in people, and is an impulse for strengthening human potential to counteract crises and



strengthening responsibility for the future is widely spread nowadays. While analysing this approach, pedagogy, both in its theoretical and practical areas, must be given particular importance, mostly because it helps solve problems related to the education of an individual and in particular their relations with the natural and social environment for the sake of life. As remarked by Tuszyńska and Pawlak (2019, 123), “[...] pedagogy is a social science, based on values, which deals not only with the education of the individual, but also with the functioning of a human being in relations with the environment.”

Along with the dissemination of the idea for sustainable development, a new direction for the transformation of education was set, which, unlike the trace-based system of learning (teaching, reproducing knowledge), leads towards subjective education. It is this form of education that is focused on independence, respect for what is common, and which takes into account the role of taking responsibility for one's decisions and their processual effects (Jickling and Wals 2008). In the learning process, individual involvement of the participants of education and the process that helps gain first-hand experience, i.e., work taking into account the contexts in which given phenomena occur, as Dewey wrote in 1938, is of key importance. The idea of progressive education proposed by the scholar derives from the philosophy of experience based on two criteria: interaction (mutual relations with the environment) and continuity (continuous generation of experiences in the social environment created by *school in society and society at school*). Gaining experience becomes a process linked to the external environment. Perception is constantly changing in the eyes of the “beholder”. As Szczepanski (2008, 18-22) observes, learning should be related to the place where, as previously mentioned, such phenomena can occur. It is in the context of understanding, knowing, and creating meaning that human knowledge increases. An approach like this

leads to greater awareness of global threats in human environment.

Another concept related to the place of learning is affordance, or according to Norman (2016), the perceived and real properties of things that determine how the thing can be used. In his book, titled *The Design of Everyday Things*, he used the famous example with a door. An affordance for a door may be the shape of a handle, or a handle that looks pullable, not pushed. Another scholar, James Gibson (1986), visualizes the importance of direct contact and scope for action in an individual's relationship to his environment. He further emphasizes the path to knowledge of sensory experiences and the inherent “attraction power” that it can provide, but also the subject's ability to take over this environment or not, because “[...] you must see this before you say it.”

In education for sustainable development, it is extremely important to use an activating strategy, in which the students are more active during the lesson than their teacher. It is the students who actively seek knowledge and independently, as a result of mental and physical activities, with greater or lesser help from the teacher, build their own understanding of the world around them. In pedagogical theory sustainable development is based on the following four paradigms: constructivism, humanism, democracy and pragmatism. A consequence of constructivism, as a theory of knowledge and reaching for knowledge in school teaching, is the activity of the learners who construct their own knowledge, and do not assimilate it as transmitted from the outside. Thus, in the opinion proposed by Czaplą and Kazimierczak-Grygiere (2011, 140), they are not information recorders, but builders of the structures of their own knowledge.

The learning process begins with the child's interest in a given subject by referring to all these issues that are already known to them, so as to stimulate their cognitive desire. Therefore, it is far more important to equip the students with appropriate tools

for acquiring knowledge rather than to show them how to convey dry facts.

In the opinion presented by Tuszyńska (2015, 22), constructivism focused on the research independence of the student, i.e., on drawing conclusions on the basis of source data, has an increasingly stronger impact on science (i.e., natural) education. On the other hand, following Okoń (2007, 141), the essence of humanism are the ideas of free human development, i.e., free, unhampered stimulation of the human mind to conduct independent research on human beings. An important aspect of education is the formation of independent and critical thinking and development of the independence of production of one's opinions, both of them can be related to the objectives of the ESD.

In education, democracy means participation of students in the process of their own education. The school is an educational environment responsible for shaping pro-ecological and environmental attitudes conducive to the implementation of sustainable development. Mądrzycki (1970, 19) defines attitude as a relatively permanent, consistent organization of knowledge and beliefs, feelings and motives as well as certain patterns of behaviour of an individual related to a specific object or class of objects. Thus, the teacher should motivate his/her pupils to take action, because this will allow the pupils to show their own initiative, and this, in turn, will contribute to the development of their personality. The learner who takes an action, will eventually adopt the attitude of "performing" that type of action; s/he will become a supporter of this action, encourage his/her peers, and even often perform an appropriate function. In the opinion presented by Jagodzińska (2005, 22), the highest achievable category of motivational goals is the system of activities, where the student does not fail even in difficult situations, his/her actions are effective, and s/he can apply the acquired knowledge and skills in every case.

The pragmatic approach to education allows us to look at it as a practical undertaking that can help people in everyday life. It is life experiences that function as the basis for the process of shaping the student's activity; each positive experience strengthens human activities in a given area (Kołodziejka and Czerniak-Czyżniak 2008, 255).

UNESCO Education Section (2006), out of concern for the quality of education for sustainability, points to the need to take into account the following criteria: it should be a holistic and interdisciplinary education,

- it should shape values,
- it should develop critical thinking and the ability to solve values,
- it should use a wide range of teaching-learning methods,
- it should require active participation,
- it should relate directly to everyday life, both personal and professional,
- it should also respond to local challenges.

## **2. Preparing the students to implement the idea of sustainable development - method and results of the research**

It is, therefore, very important to prepare the staff of future teachers who will meet the new competences related to education for sustainable development. Tuszyńska and Pawlak (2019, 127) believe that teachers involved in education for sustainable development should never neglect teaching of the content of its fourth goal: knowledge and shaping attitudes towards educating an integral, mature and happy person, responsible for himself/herself and for the environment. Education, assuming as the basis for the condition of development, the responsible participation of individuals and communities, should enable every person to acquire ethical competences to decide about their fate so that they can also contribute to the progress of society in the name of sustainable development (Bałachowicz 2017, 28).

The aim of the study was to find out and analyze the opinions of students on the use of the knowledge they gained during their

studies in shaping attitudes towards sustainable development. The following research problems were formulated in this study:

- Do students undertake activities aimed at improving the natural environment and its protection?
- To what extent is sustainable development content included in higher education curricula?
- What is the impact of the University on students' attitudes towards sustainable development?

Based on the above-mentioned research problems, the following hypotheses were defined:

- H1. It is assumed that students undertake activities to improve the natural environment and its protection, albeit to a small extent.
- H2. It is presumed that the content related to sustainable development appears to a small extent in higher education programs, and their implementation is superficial.
- H3. It is assumed that education for sustainable development conducted at universities has a positive impact on the attitudes of students.

Two variables were selected in the study: gender and the area of study: non-teaching studies (preparing for the performance of care and upbringing activities) and teaching studies (preparing students to work as a teacher in kindergarten and in grades 1-3 of primary school).

The method selected was a diagnostic survey with the use of a survey technique and a questionnaire as a research tool containing 10 closed questions. When designing the questionnaire, care was taken to ensure that the questions were simple, unambiguous and understandable. For this reason, the questions have been expanded to include very detailed multiple-choice answers.

The research sample consisted of 78 students, including 82.1% women and 17.9% men. All respondents represented the field of pedagogy studies, including 61.5% in the area of teacher studies and 38.5% in

the area of non-teaching studies. Students came from various universities in Poland. The study was conducted on an internet platform. Out of 122 completed questionnaires, 78 were selected for the study, discarding incorrectly completed, incomplete and defective ones.

Due to the fact that the conducted own research did not belong to the category of mass research, the scope of statistical methods was limited. In this study, the elements of descriptive statistics were used, mainly the occurrence measures: number, percentage of observations.

*Activities undertaken by students to improve the natural environment and its protection – verification of the hypothesis H1*

Verification of the first hypothesis – was made on the basis of empirical data obtained from respondents' answers to two questions of the questionnaire – Fig. 1 and Fig. 2.

The first question addressed to students was whether they live in accordance with the principles of sustainable development (Fig. 1).

The answers to this question are quite optimistic. Only 2.5% of the respondents (mostly men and/or students of non-teaching studies) do not have an opinion on this subject; the remaining respondents confirm that they live in accordance with the principles of sustainable development, including 38.5% definitely yes (mainly women), and 59% rather yes. An equivalent variable: the area of study (teaching, non-teaching) does not affect the distribution of answers.

The positive opinions on living in accordance with the principles of sustainable development may be the result of the recent revival of the activities of various environmental and/or environment protection movements. As observed by Ciążela (2021, 43), the student movement, largely inspired by multiple Greta Thunberg's proclamations on the protection of local environment, has even developed, describing itself as the Youth Climate Strike.

The respondents were also asked about specific actions taken by students, which, in

their opinion, serve to improve the natural environment and help improve people's living conditions (Fig. 2).

It turns out that students undertake many activities to improve the natural environment and get actively involved in its protection. 88.5% of students segregate waste; 78.2% save water, gas and electricity; 76.9% give their used clothes to the appropriate used clothes collection points; 62.8% of the respondents do not throw away food. Students take part in volunteering for the natural environment, for the elderly, the sick or children; some of the students declared they are active in an association, housing estate council, etc. acting for the development of the local community and improvement of its living conditions (6.4%).

Hypothesis 1, which assumes that students undertake activities to improve the natural environment and/or remember about its protection, albeit to a small extent, has been partially positively verified.

It is not known to what extent the percentage of the above-mentioned activities (Fig. 2) results from the high environmental awareness of students, and to what extent from the awareness that saving the use of natural resources to a lesser extent depletes human economic resources.

In her studies conducted in 2018 on a sample of 600 students of the faculty of pedagogy, Ciężka (2018, 73-88) observed a significant lack of orientation of the respondents in current ecological issues, while their topical attitudes were relatively high.

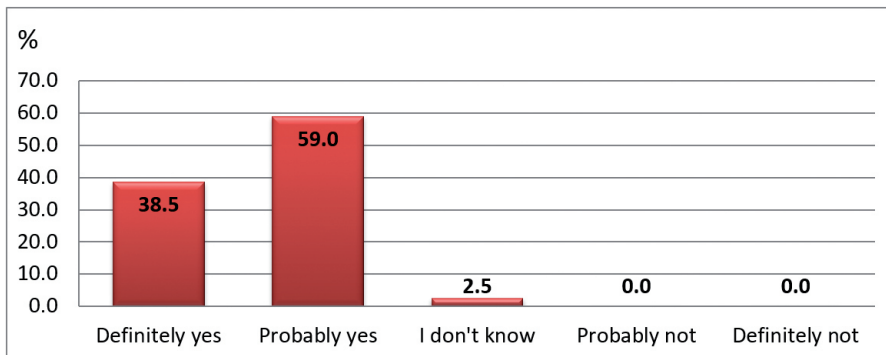


Figure 1. Assessment of own attitude towards the principles of sustainable development.

Source: Own research

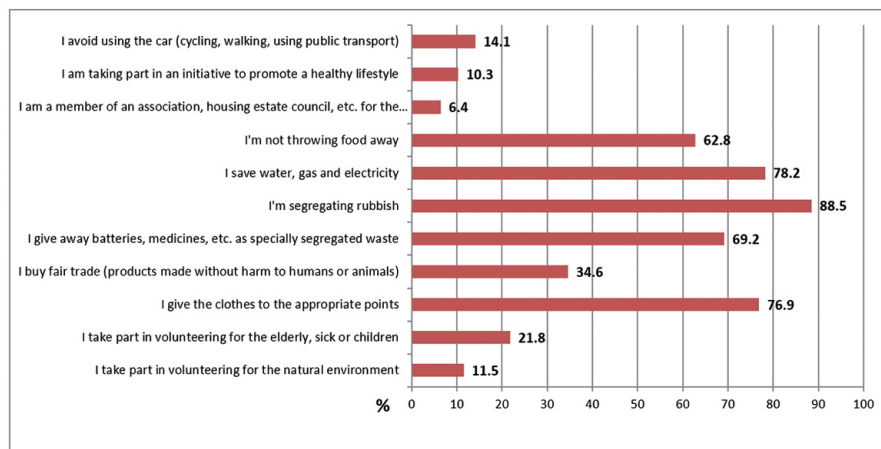


Figure 2. Actions taken by students. Source: Own research



The same research showed that the students were best informed about practical issues related to the ways of minimizing their own negative impact on the environment (Ciążela 2018, 73-88). According to Kwiatek and Skiba (2017, 134), who conducted similar research, the driving force for saving energy and/or water is located in more care for the home budget than a conscious ecological attitude.

*The occurrence of content related to sustainable development in higher education programs in the field of pedagogy – verification of the H2 hypothesis*

The second hypothesis was verified with the use of the empirical material obtained from the answers given by the respondents to five questions included into the questionnaire (Data, Fig. 3, 4, 5, 6 and Tab. 1).

The respondents were also asked whether the subject of sustainable development was noticed in the curriculum during studies (Fig. 3).

A large percentage of respondents (74.4%) confirms the presence of content related to sustainable development in study syllabuses, although their implementation generally occurs to a small extent in a non-teaching syllabus, being more visible in the teacher studies. The items on which the above-mentioned are moved the content is presented in Fig. 4.

As one can see, 18.87% of respondents indicated that sustainable development occurs in the content of education in most subjects, the same percentage of respondents indicated the subject of comparative pedagogy: subsequently, the following subjects were listed: contemporary problems of pedagogy (7.55%) and methodology (also 7.55%); social competence workshops, psychology, health education, nature education, and cultural anthropology (5.66% of responses in each instance). 3.77% were awarded by the respondents to the following subjects: theoretical basics of education, basics of physical education and early school education. Finally, sociology, philosophy, art education and pre-school pedagogy scored

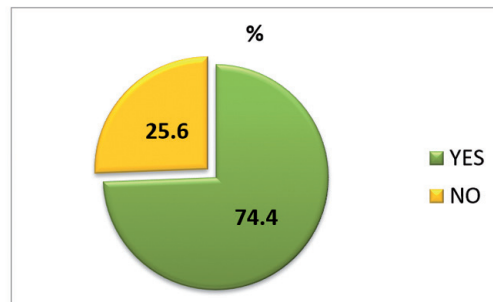


Figure 3. Presence of the subject of sustainable development in the study syllabus. Source: Own research

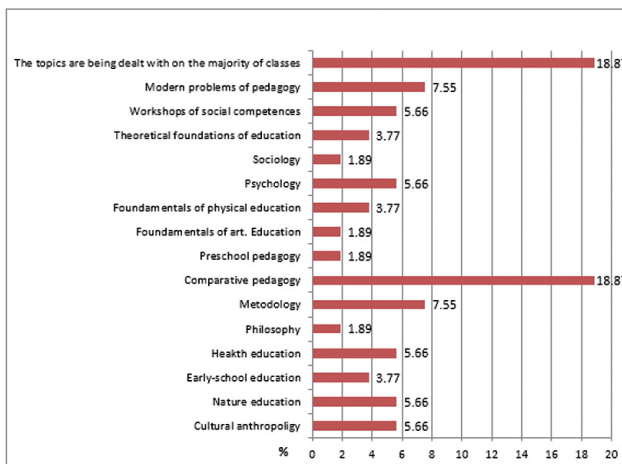


Figure 4. Subjects on which the topic of sustainable development is discussed. Source: Own research

only 1.89% of responses each of them. Most of the above subjects recognized as issues of sustainable development are to a greater extent implemented in educating teachers in the field of pre-school and early school education.

For the majority of respondents (94.9%), the issue of the topic of sustainable development has been recognized as important. During their studies, 73.1% of students had the opportunity to learn about the organizations that work to improve the natural environment and people's well-being. The list of organizations/institutions mentioned by the respondents is presented in Fig. 5.

Among the listed organizations that were met by students during their studies, the ones that support the lives of people in a difficult life situation are mentioned the most. These are: Eateries (74.4%); Caritas (44.9%); Food Bank (38.5%); Church (16.7%); Volunteering activities (1.3%); and Day Support Centers (1.3%). When it comes to the organizations working for the natural environment, the following were mentioned: Society for the Protection of Animals (26.9%); Scientific Circles: ecological, environmental and/or similar (17.9%); League for Nature Conservation (17.9%); Greenpeace (16.7%); Polish Ecological Club (11.5%).

Students of non-teaching studies, to a greater extent than students getting ready to work as teachers, had the opportunity to get to know organizations

in the area of activities for sustainable development. Such students, to a greater extent, indicated auxiliary organizations; at the same time, the students attending teacher studies mentioned organizations working for the improvement and protection of the environment.

A small group of students had the opportunity to cooperate with some organizations and practically act to improve the natural environment and people's well-being (Fig. 6).

The most frequently indicated organizations by students were: Eateries (37.2%); Caritas (30.8%); the Food Bank (19.2%); and the Church (15.4%). Among the environmental organizations, the respondents mentioned: Society for the Care of Animals (10.3%); the Scientific Club (10.3%); and LNC (5.1%). It can be assumed that both in teaching and non-teaching studies, it is possible to engage in activities for sustainable development.

The research revealed that students obtain the most complete amount of knowledge about sustainable development from the Internet, TV and friends (Tab. 1).

The second hypothesis, assuming that the content of sustainable development appears in higher education programs to a small extent, and that their implementation is superficial, has been verified positively. Only 18.87% of the respondents indicated that sustainable development occurs in the content of education at teacher

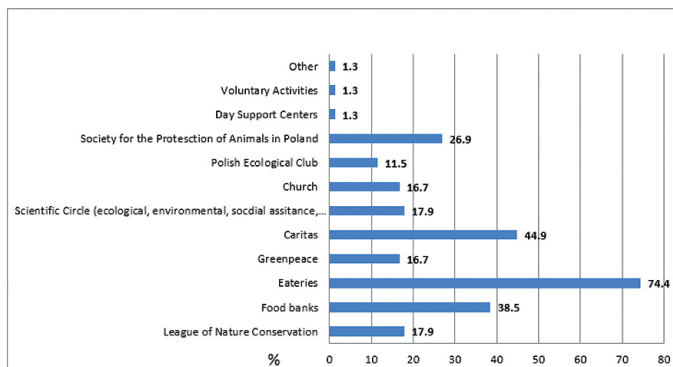


Figure 5. Organizations working to improve the natural environment and/or people's well-being, the respondents met during their studies. Source: Own research (The data does not add up)

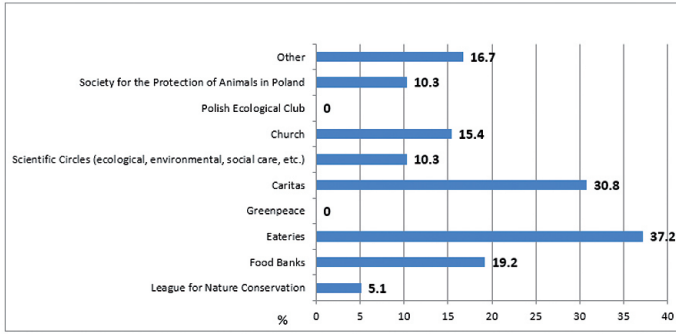


Figure 6. Organizations with which the respondents cooperated during their studies. Source: Own research (the data does not add up)

Table 1. Sources of knowledge on sustainable development

%	University	TV	Radio	Internet	Mates	Books	Other
0	2	2	10	0	2	4	13
10	13	5	7	1	10	11	8
20	10	13	17	7	12	11	5
30	13	13	10	15	9	12	7
40	10	9	6	5	9	7	5
50	6	11	9	8	10	7	7
60	6	6	7	6	7	1	3
70	9	6	0	8	6	7	3
80	6	6	4	11	6	7	2
90	0	2	0	3	1	1	0
100	11	3	1	13	2	2	1

Minimal  Maximal

Source: Own research

educating higher education institutions, despite the fact that for the majority of people participating in the survey (94.9%) the issue of the subject of sustainable development has been recognized as important. The university made it possible to participate in the activities of the Eateries, Caritas activities, various activities for animals and several other institutions in the field of implementing the idea of sustainable development. However, these are single activities, which are conducted with a view to thematic practical classes in the areas of educating students of pedagogy. Students of non-teaching studies, to a greater extent, indicated auxiliary organizations (mainly in such areas as: family pedagogy, social

services, etc.), at the same time, students of teacher educating studies indicated organizations working for the improvement and protection of the environment (the educational standard includes natural content).

*The impact of education for sustainable development at universities on the attitudes of students – verification of the H3 hypothesis*

The first question in this regard was: *Do you think the University provides sufficient education in the field of sustainable development.* The results illustrating the answers to this question are presented in Fig. 7.

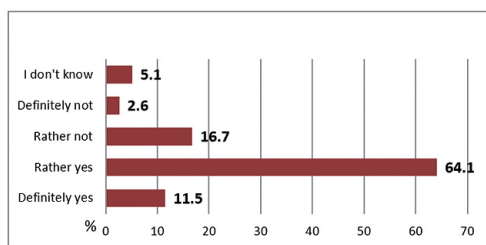
Students positively assessed the University in terms of implementing the principles of sustainable development. 64.1% of them assessed the work of the University rather

well and 11.5% were quite satisfied with the amount of knowledge they get on sustainable development there. Only 24% of respondents presented different opinions.

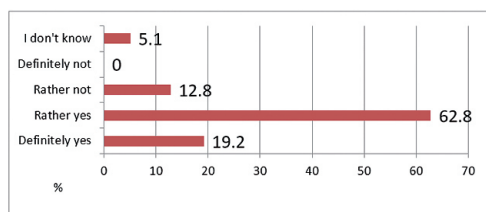
The students were also asked whether they would you be able to lead classes with children on the subject of sustainable development (Fig. 8).

A large percentage of the respondents believe that they would conduct classes on sustainable development to their learners; 62.8% of the poll were rather convinced about it and 19.2% were definitely sure they would be able to do that. At the same time, however, 17.9% of the respondents think they either would not be able to conduct such classes at all (5.1%), or it would be quite difficult to do that (12.8%).

The third hypothesis assumed that education for sustainable development conducted in universities has a positive impact on the attitudes of students. The opinions of the respondents obtained as a result of answers to questions in this field allowed for a positive verification of the above-mentioned assumption. Despite the low activity of the university, most students positively



**Figure 7. Assessment of the teaching of the principles of sustainable development by the University. Source: Own research**



**Figure 8. Ability to conduct classes with children on sustainable development. Source: Own research**

assessed its efforts to implement the principles of sustainable development. Thus, a large percentage of students (62.8%) declare that they would be able to conduct classes in the field of sustainable development.

The following conclusions can be drawn from the analysis of the survey:

Students undertake many activities to improve the natural environment and/or protect it, but the driving force for saving energy or water results from their care for the home budget rather than conscious ecological attitude.

For the majority of respondents participating in the study, the issue of the topic of sustainable development is important, but a very small percentage of students declared that they learn about it when they take part in various classes/lectures at the University.

A large percentage of respondents confirms the presence of content related to sustainable development in their study syllabi, although their implementation marginally occurs during their studies. To a greater extent are the subjects that take the issues of sustainable development into account implemented in the syllabus offered to future teachers in the fields of preschool and/or early school education.

Students of non-teaching studies, to a greater extent than students preparing for the teaching profession, had the opportunity to get to know organizations in the area of activities for sustainable development. Students of non-teaching studies, to a greater extent, indicated auxiliary organizations, whereas students of teacher studies – the organizations involved in the work for the improvement and protection of the environment.

A large percentage of the respondents believe that they would conduct classes in the field of sustainable development.

Students positively assessed the university in terms of implementing the principles of sustainable development.



## Conclusions

Universities are a special place for the implementation of the principles of sustainable development. Thanks to active education for sustainable development at universities, it is possible to prepare consciously teachers to be able to correctly educate future generations. It is mostly due to their efforts that future economists, political and social decision-makers, thanks to whom – as Kalinowska (2017, 283) puts it – *It should be possible to change the current paradigms and introduce the principles of sustainable development in all spheres of the functioning of societies and individual individuals*. Unfortunately, in the present system of higher education it is difficult to educate professionals in this field, as there is no holistic approach to education for sustainable development. Due to the narrow scopes of studies, economic, environmental and social aspects do not occur together and are treated separately. The situation begins to change during the studies directed at the education of future teachers. The *Regulation of the Ministry of Science and Higher Education* (Regulation 2019), while describing the new standards of the process of preparation for the teaching profession, offers top-down guidelines in the field of sustainable development that should be taught during pedagogical studies. An example may be a group of substantive preparation classes for teachers in kindergartens and primary school grades 1-3 recognized as preparation for the integration of the teaching content, in which there was separated a module titled *Social and Natural Education*, that contains a number of succinctly presented learning outcomes, clearly subordinated to the content of sustainable development. For example, the school graduates know and understand the key concepts and phenomena in the field of animate and inanimate nature, occurring in their environment, as well as possess basic concepts of knowledge about society and/or basics of entrepreneurship and economy.

On the other hand, in non-teaching pedagogical studies, education for sustainable

development lies within the competencies of universities and is introduced to educational programs at the initiative of the university, i.e., its employees. In modern times, it is necessary to include it in the curricula of various subjects. Such an approach will certainly affect the development of social capital, and thus create people who are socially and environmentally responsible for their actions.

The theoretical and empirical reflections of the authors determine the willingness to deepen the knowledge of the problems undertaken in the next study on the implementation of education for sustainable development at universities in Poland in a comparative aspect.

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