

SECONDARY SCHOOL YOUTH AND THE IDEA OF SUSTAINABLE DEVELOPMENT – OPINIONS AND ATTITUDES

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Abstract: The main aim of the paper was to systematize the opinions and attitudes of school youth towards the idea of sustainable development. The research was conducted between 2016 and 2017 in Lesser Poland Province. The data was gathered in two ways: by handing out printed questionnaire forms among secondary school students and by distributing the forms in an electronic form among school youth. Taking into account the type of school, education profile and year in a school, responses to questions about the knowledge of the concept of sustainable development, the associations it brings to the mind and the need to implement it were analysed. The data was processed using pivot tables prepared in Microsoft Excel spreadsheet. The survey results pointed out marginalisation of the issues of sustainable development in secondary education: students rarely encountered this term (both in their life and education) and were unable to provide its proper definition. The respondents most often associated the term “sustainable development” with social justice and environmental protection. Due to educational gaps, the majority of the respondents did not know whether sustainable development was needed.

Keywords: sustainable development, education of youth, ecological awareness, youths’ attitudes.

1. Introduction

The concept of sustainable development has been a subject of interest in the academia for almost five decades. It shapes social awareness, but still remains an ambiguous term, appearing in various contexts, interpreted in multiple ways by representatives of different fields of science (Andrzejewska, and Zwierzchowska, 2017). According to Kalinowska and Lenart (2007), sustainable development is a sphere that goes beyond a single, traditional category of knowledge or a single sector of the economy or social life. The multifaceted character,

combined with huge popularity of the concept of sustainable development, implies a range of difficulties in providing a clear-cut, precise definition of this term (Andrzejewska, and Zwierzchowska, 2017). The multitude and variety of interpretations of sustainable development – as many as 300 definitions are said to exist at present – have been pointed out by many scholars (such as Bałachowicz, 2016; Batorczak, 2013; Hopwood et al., 2005; Piontek, 2002). They indicate the possibility of multiple interpretations, emphasising, at the same time, that ambiguity and vagueness are the main causes of confusion, difficulties with interpreting and understanding the concept and assumptions of the idea of sustainable development, reducing the possibility of consensus among representatives of different scientific disciplines (Bałachowicz, 2017).

Although the origin of the idea of sustainable development dates back to the end of the 1960s and the beginning of the 1970s, it was not until 1987 that its first definition appeared. “Our common future” report, developed by the UN World Commission on Environment and Development, defined sustainable development as one that ensures satisfaction of the present generation’s needs without diminishing the future generations’ chances to satisfy their own (UN, 1987). It also distinguished three main aspects, that should be taken into account when developing a strategy for achieving sustainable development (Andrzejewska, and Zwierzchowska, 2017):

- environmental aspect, which involves environmental protection and rational management of natural resources,
- economic aspect, which is equated with economic growth and just distribution of its gains,
- social aspect – understood as social development by eliminating social problems.

These areas became the foundation of the philosophy of sustainable development, defining the directions of the activities and work to be undertaken to promote it.

According to the Environmental Protection Law, sustainable development is defined as socio-economic development, which involves the process of integrating political, economic and social activities, maintaining natural balance and sustainability of basic natural processes, in order to guarantee the ability to meet the basic needs of individual communities or citizens, of both the contemporary and future generations. However, the results of the Expertise on education for sustainable development in Poland, carried out in 2012, clearly show that the statutory definition of sustainable development was difficult for society to understand, especially for young people (Ekspertyza..., 2012). Therefore, in the context of teaching young people, the authors prefer the definition of sustainable development understood as the pursuit of a conscious and mature life in internal harmony and with the environment (Michnowski, 1995).

The condition of implementing the assumptions of sustainable development is appropriate education. Shaping key competencies and preparing graduates for actively entering the labour market, it should mould the right attitudes of citizens from the earliest years of their life

(Kędzińska et al., 2013). Therefore, already in 1977, Education for Sustainable Development (ESD) was recognised as a priority issue (Jutvik, and Liepina, 2008). As part of its implementation, the governments of the EU Member States committed themselves to making the subject of sustainable development part of their curricula (Batorczak, 2007). In accordance with the adopted regulations, the issues of sustainable development were included in the core curricula of general education in the Polish educational system for all types of schools and at all levels of education (Prawo Ochrony Środowiska, 2001). Moreover, a document entitled “Through education to sustainable development” (Ministry of Environment, 2001) was developed and became the National Education Strategy. This document emphasized, that the Polish education system addresses all the challenges of sustainable development and serves the implementation of its ideas. It should contribute to solving many problems of today’s world, caused by overexploitation of ecosystems and natural resources, urbanisation, industrialisation, as well as demographic and social problems. Its task is also to develop, in the process of educating the society, behaviours and habits that will make it possible to leave the natural environment to future generations in a state that is not worse than today (Batorczak, 2013). The current Strategy of Education for Sustainable Development emphasised that the development of sustainable society should be perceived as a continuous process of learning, exposing the issues and problems of sustainability, whereas the objectives of education in that area should include knowledge, skills and understanding, and take into account appropriate attitudes and values (Ministerstwo Środowiska, 2008).

However, the provisions concerning education for sustainable development, as included in the constitution of the Republic of Poland, laws and regulations, as well as adopted strategic documents, still seem not to be effectively translated into the curricula used in the education of the Polish youth. A 2012 expert report on education for sustainable development in Poland confirmed the lack of a single, consistent understanding of the concept of sustainable development, poor knowledge of the concept and poor education for sustainable development, both among students and teachers. Among the youth studying in upper secondary schools, as many as 60% never encountered the concept of sustainable development, and only 9% of those surveyed knew it very well. The unfamiliarity of the issues addressed in this paper was admitted not only by students, but also by their teachers. The lower the level of education, the higher the share of teachers who never encountered the concept or demands of sustainable development. What is more, almost 70% of the teachers surveyed claimed that they were not obliged to provide education for sustainable development during their classes (Ekspertyza..., 2012). The causes behind this situation are attributed, among other things, to the difficulty in interpreting and understanding the definition of sustainable development and the lack of regulation concerning the “school-wide” systemic approach (Kędzińska et al., 2013). According to Lorek (2013), we often see an incorrect tendency in curricula to address economic, social and environmental aspects of sustainable development separately (Lorek, 2013). Cases of implementing a comprehensive educational programme reflecting the principles of

sustainable development are still rare, and the issues of the natural environment, for years, have been overlooked and omitted in teaching, which made it difficult to organise the relationships between the economy and the environment (Kielczewski, and Poskrobko, 2009). There is also a clear lack of top-down structured cooperation in this area among the stakeholders. Unfortunately, sustainable development education is also neglected in the process of developing the competencies of future teachers, most often due to the lack of qualified staff in that area, which is another main barrier to the development and implementation of sustainable education (Kędzierska et al., 2013).

As the Strategy for Responsible Development for Poland (2018) says, human capital is a critical factor in the socio-economic development of the country, which, along with progressing demographic processes and other global challenges, will become even more significant. The development of human capital occurs through the development of people's competences in such a way, that they can fully participate in social, political and economic life. Certainly, the issue of sustainable development cannot be ignored in this process, since the main objectives of the strategy are: sustainable economic growth, as well as socially sensitive and territorially sustainable development (Ministerstwo Inwestycji i Rozwoju, 2018).

2. Material and the research method

The paper presents selected results of research examining the knowledge, opinions and attitudes towards the idea of sustainable development among secondary school youth. The research was conducted in 2016 and 2017 among students attending secondary schools (comprehensive and vocational) in the Lesser Poland Province. The research covered students of different school years and representing different education profiles. Purposive sampling was driven, among other things, by questions regarding the effectiveness of communicating sustainable development requirements to the youth in the process of education. Attention was also paid to the issues of respondents' own interpretations and associations connected with the subject addressed in the paper.

Two research techniques were used to gather information. The first is the method of an auditorium survey, which falls under the category of indirect survey methods. It involves distribution of survey questionnaires among respondents (students) gathered in one place (a classroom). The questionnaires were collected by the person conducting the survey immediately after they were completed, thus guaranteeing a high response rate (Kaczmarczyk, 2014). The survey was distributed using this method in 6 schools. Moreover, in order to increase the size of the sample and reach a wider group of respondents, CAWI (Computer Assisted Web Interviews) method was also used. It is currently one of the prevailing research techniques in marketing research, and involves distribution of a survey questionnaire by electronic means to

be completed by respondents on-line (Sobocińska, 2005). It is a very popular method – in Poland, around 1/4 of all social studies are currently conducted through the Internet, with almost all of them using the CAWI method (Maćik, 2014).

The survey questionnaire consisted of a few thematic sections, containing 14 questions concerning, among other things, the interpretation of the concept of sustainable development and activities undertaken to implement it. Young people were also asked whether they encountered the issues of sustainable development during their education, and if so, at which stage of education and as part of which group of subjects. Moreover, they were requested to express their opinions about responsibility for implementing and following the concept of sustainable development. The respondents also assessed the sustainability of development processes at various levels of spatial aggregation.

Due to limited available space, this paper focuses on 6 questions:

1. How often do you encounter the term sustainable development?
2. In your education, have you encountered the issues of sustainable development?
3. If so, and if possible, can you specify the school subject/subjects?
4. Do you know what sustainable development is about? What is its essence?
5. Which of the terms do you associate with sustainable development the most?
6. Is sustainable development needed?

Questions 1 and 2 (about the popularity of the term), 5 (about associations) and 6 (about the need of implementation) were of a closed character. Questions 3 and 4 (about the understanding of the term and school subjects) were open. The respondents could present their own interpretation of sustainable development and specify the school subjects in which these issues were addressed. The responses were analysed in terms of three factors, i.e. by school type, by school year and by education profile, which were retrieved from the socio-demographic data provided in the survey,

By the end of January 2017, the questionnaire was completed by 846 respondents, including 654 students attending comprehensive schools and 192 students of vocational schools. Pilot studies were conducted in 2015-2016 at the University of Agriculture in Krakow. The conclusions drawn from the questionnaires completed by young people allowed for refining the scope of questions and the measuring scales used. The survey questionnaire reached a large group of youth, representing not only different types of schools, but also different profiles of education. In terms of education stages, the research sample comprised of 258 first-year students, 292 second-year students, 250 third-year students and 46 fourth-year students. The respondents represented 5 education profiles: extended curriculum in humanities (137 respondents), extended curriculum in natural sciences (206 respondents), mixed (154 representatives), extended curriculum in exact sciences (155 respondents) and technical profile (194 respondents).

The data was processed using pivot tables prepared in Microsoft Excel spreadsheet, with particular focus on the percentage structure of the responses provided in the context of respondents' characteristics, retrieved from their socio-demographic data provided in the survey.

3. Research results and discussion

One of the more important conclusions drawn from the analysis of the survey results was that secondary school students practically do not encounter the idea of sustainable development in their every-day life or encounter it very rarely. This response was provided by 91.5% of the respondents. Slight differences in terms of the knowledge of this concept were recorded depending on the type of school, school year and profile of education (Table 1). Due to the ordinal scale used in the question, the frequency of students' encounters with the idea of sustainable development was summarised in an aggregate score by calculating weighted arithmetic mean for the analysed categories of schools, school years and education profiles. For that purpose, the following grades were assigned to different variants of responses: not at all – 1, very rarely – 2, rarely – 3, often – 4, very often – 5. Three trends were observed in the students' responses:

- vocational school students encountered the idea of sustainable development relatively less often (1.39),
- as education progressed, the popularity of the concept of sustainable development increased slightly (first-year students – 1.39 versus third-year students – 1.58 and fourth-year students – 1.57),
- of the five analysed profiles of education, the issues of sustainable development were encountered relatively more often by students in classes with extended curriculum in humanities (1.65) and natural sciences (1.62).

When we look at the aggregate weighted arithmetic mean score (1.49), the recognition of the concept of sustainable development among students was, in overall, very low. The typical response of a surveyed student concerning the analysed problem was statistically between two least desirable categories of responses to the question “how often do you encounter the concept of sustainable development”.

Table 1.

Popularity of the concept of sustainable development among students of upper secondary schools (%)

Item		How often do you encounter the term “sustainable development”?					Aggregate score [1.00-5.00]
		Very often	Often	Rarely	Very rarely	Never	
School	Comprehensive	0.3	0.9	7.5	31.3	59.9	1.50
	Vocational	0.5	1.0	6.3	21.4	70.8	1.39
School year	First	0.4	0.8	5.8	22.9	70.2	1.39
	Second	0.7	0.7	5.5	30.5	62.7	1.47
	Third	0.0	1.2	10.0	34.0	54.8	1.58
	Fourth	0.0	2.2	10.9	28.3	58.7	1.57
Education profile	Extended curriculum in humanities	0.0	1.5	11.7	37.2	49.6	1.65
	Extended curriculum in natural sciences	1.0	1.0	8.3	37.9	51.9	1.62
	Mixed	0.0	1.3	4.5	27.3	66.9	1.40
	Extended curriculum in exact sciences	0.0	0.0	5.8	21.9	72.3	1.34
	Technical	0.5	1.0	6.2	21.1	71.1	1.38
In total		0.3	1.0	7.6	29.7	61.4	1.49

Source: own elaboration.

Similar trends in the examined area emerged from the results of research on teaching about sustainable development, conducted using the nominal scale (Table 2). Almost 90% of the students did not encounter the concept of sustainable development during school classes or did not remember whether they came across it. Also in this case, students of comprehensive schools, in older years and pursuing education with extended curriculum in humanities and natural sciences encountered the issue of sustainable development relatively more often.

Table 2.

Education of students in the area of sustainable development (%)

Item		In your education, have you encountered the issues of sustainable development?		
		Yes	No	I don't remember
School	Comprehensive	12.4	42.2	45.4
	Vocational	10.4	34.4	55.2
School year	First	4.7	39.5	55.8
	Second	6.5	43.8	49.7
	Third	22.0	37.6	40.4
	Fourth	32.6	39.1	28.3
Education profile	Extended curriculum in humanities	21.2	38.0	40.9
	Extended curriculum in natural sciences	15.0	36.4	48.5
	Mixed	8.4	46.8	44.8
	Extended curriculum in exact sciences	5.2	49.0	45.8
	Technical	10.3	34.5	55.2
In total		11.9	40.4	47.6

Source: own elaboration.

To examine the issue in more detail, students were asked, in an open question, to indicate (where possible) school subjects, in which the issues of sustainable development were addressed. The question was not obligatory – it could be left without answering. As many as 89% of the students chose to leave the question out. Looking at the responses provided to the first three questions, the necessity of inclusion of the issues of sustainable development into the core curricula of general education for all types of schools (Ustawa..., 2001) seems to be ignored in practice.

While answering the open question, only 5% of the students indicated that they encountered the issues of sustainable development in natural science subjects (i.e. biology, geography). Only 2% of the students encountered sustainable development in social education subjects (i.e. form period, social and political studies, economics, business studies). Only 1% of the responses indicated humanities (mainly the Polish, English and German languages). 2% of the respondents encountered the concept of sustainable development in a few different groups of school subjects (humanities and social education subjects, natural sciences and social education subjects, natural sciences and exact sciences). There were isolated cases of indicating exact science subjects, sports and technical subjects (i.e. mathematics, physics, physical education, electrical engineering).

The recorded low frequency of encounters with the idea of sustainable development (both in every-day life and in school education) was interestingly complemented by the responses to the next open question, which asked the students to provide their own interpretation of this concept (Table 3). In this context, there is no wonder that almost 69% of the students left the question without an answer. 10% of the respondents provided an answer that was unclear, nonsensical or loosely connected with the question. Almost 9% of the students stated openly that they did not know what sustainable development was about or what its essence was. Only around 12% of the youth attending upper secondary schools provided responses showing relative knowledge of the analysed concept. However, the phrase “relative knowledge of the concept” should be stressed at this point, because sustainable development was associated with various social, economic and environmental aspects, but its complete definition was not provided by a single student.

The open character of the question checking the understanding of the idea of sustainable development led to great variety in the students’ responses. For that reason, they were grouped by seven contexts, around which they oscillated (Table 3). It was found out, that the context of protecting the environment and saving its resources dominated in the students’ own interpretations of sustainable development (2.4% of responses). This observation confirmed the authors’ view, that there is a significant problem with proper understanding of the concept of sustainable development. The definition of sustainable development provided in the relevant act is complex and difficult to learn; therefore, it is simplified by people and usually narrowed down to seemingly altruistic human concern about the environment (Dacko, and Płonka, 2017). The students, whose responses concerning the essence of sustainable development were “to the

point”, also referred to the systemic context and proper relations between interacting elements (2.2% responses). Indeed, at the most general level, this is the necessary and sufficient condition for sustainability of any system. The fact that so few young people perceived the essence of sustainable development in this way is by no means optimistic. A small share of students correctly equated sustainable development with inter-generational justice (2.0% responses) and intra-generational justice (1.5% responses). It should be noted, that the context of justice is an important element of the most popular definitions of the analysed concept. The responses also referred to the individual context – concentration on the development of an individual, their freedom and possibility of personal fulfilment (1.9% of responses) and the socio-economic context, in which sustainable development was equated with entrepreneurship, prosperity, as well as improvement of the level and quality of life (1.8% of responses). Sporadic responses associated sustainable development with providence, far-sightedness and responsibility for one’s own activities.

Table 3.

Respondents’ own interpretations of the term “sustainable development”

Do you know what sustainable development is about? What is its essence?		Education profile*					In total	
		H	N	M	E	T	(n)	(%)
		(n)	(n)	(n)	(n)	(n)		
1	No answer	86	114	120	113	150	583	68.9
2	The answer is unclear, nonsensical or loosely connected with the question	26	31	6	10	12	85	10.0
3	Negative answer: “I don’t know”	4	30	8	18	15	75	8.9
4	The context of environmental protection, saving natural resources	3	9	1	2	5	20	2.4
5	The systemic context, developing appropriate relations between the elements	2	6	6	4	1	19	2.2
6	The context of inter-generational justice	1	6	5	3	2	17	2.0
7	The individual context, concentration on an individual	5	2	3	1	5	16	1.9
8	The socio-economic context	7	3	0	3	2	15	1.8
9	The context of intra-generational justice	3	4	4	1	1	13	1.5
10	The context of responsibility for one’s own activities	0	1	1	0	1	3	0.4
In total:		(n)	137	206	154	155	194	846
including the responses showing the lack of knowledge of the concept (1-3)		(%)	84.7	85.0	87.0	91.0	91.2	87.8
including the responses showing a relative knowledge of the concept (4-10)		(%)	15.3	15.0	13.0	9.0	8.8	12.2

*education profiles: H – extended curriculum in humanities, N – extended curriculum in natural sciences, M – mixed (comprehensive), E – extended curriculum in exact sciences, T – technical, [n] – number of responses; [%] – percentage in the research sample.

Source: own elaboration.

Summing up, the overwhelming majority of secondary school students (i.e. 88%) did not know what sustainable development was or did not bother to provide a descriptive answer. Those who provided descriptive responses, showing a relative knowledge of the concept, indicated only some of its aspects, usually narrowing down the problem to the issues of protecting the environment and saving its resources. The responses showing a relative knowledge of the concept were only slightly more often provided by students pursuing education with extended curriculum in humanities and natural sciences (where it is difficult to ignore such issues). Meanwhile, the issue of properly defining and understanding this concept seems to be the key to the paradigm of sustainable development. Society is unlikely to implement an idea that is generally unfamiliar or has only been encountered in a propaganda slogan or Internet news.

The survey also contained a question, in which the respondents could indicate with what they associate sustainable development the most. In that case, the students were presented with a multiple choice from among a dozen or so, more or less adequate slogans, referring to the idea of sustainable development. Of the proposed associations presented to the students, “social justice” and “environmental protection” were most often selected (Figure 1). Students also emphasized the importance of common benefits, closing the equality gaps and responsibility for one’s own activities, as well as the economic demands of productivity, thriftiness or innovation.

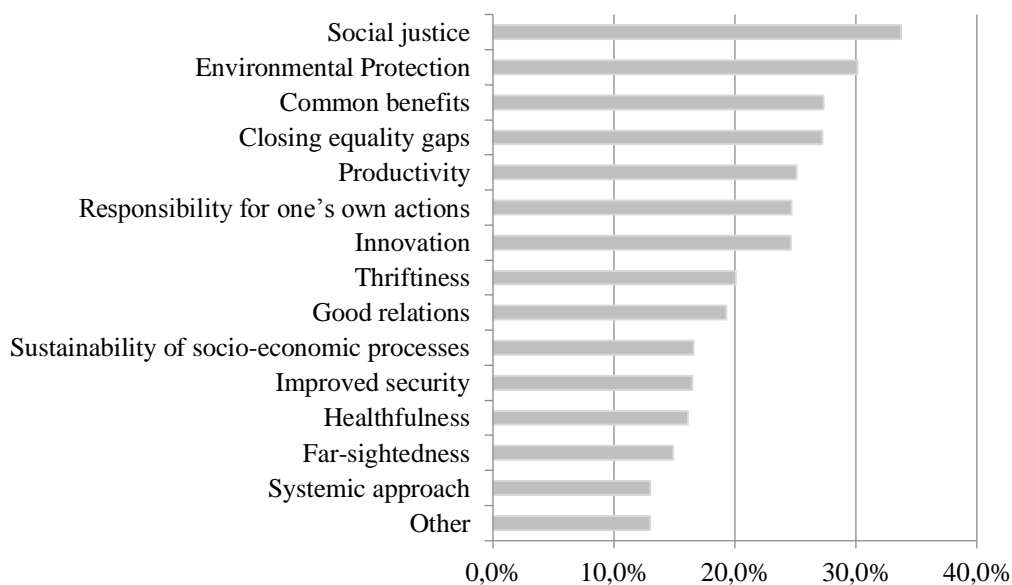


Figure 1. Slogans associated by the youth with the idea of sustainable development. Source: own elaboration.

The ranking of the associations revealed a gap in teaching youth the ability to look at the surrounding reality in a systemic way. Students rarely paid attention to such issues as far-sightedness or systemic approach. Good relations, which, in the cybernetic approach, are the key to sustainability of any system, were indicated by every fifth student surveyed. One should bear in mind, that even the elementary knowledge about systems allows a human

being to look differently at the things surrounding them, at problems and complex phenomena which function in synergy. A human being equipped with systemic knowledge knows how to identify elementary structures that determine the sustenance of the whole. The economy, society and the environment comprise such a structure. Managing appropriate relations between these elements is the key problem of present-day civilisation.

The research showed, that secondary school students rarely encountered the idea of sustainable development and generally did not know what its essence was. It is no wonder then, that only under 38% of those surveyed stated that this idea was necessary, although the need for stability and long-lasting living conditions is deeply rooted in the human nature, and psychologists claim that a human being reacts very badly to sudden changes in their environment. As many as 57% of the respondents did not know whether sustainable development was needed at all. This result was consistent with the picture of marginalising the issues of sustainable development in the analysed secondary schools, that emerged from questions 1 and 2. It is worth mentioning that:

- of the students who encountered the issues of sustainable development in their education, 75% emphasised the need for its implementation, 20% did not know whether such development was needed and 5% considered sustainable development as unnecessary,
- of the students who did not encounter the issues of sustainable development in their education, 34% emphasised the need for its implementation, 60% did not know whether such development was needed, and 6% considered sustainable development as unnecessary,

Table 4.

Need for sustainable development according to the respondents (%)

Item		Is sustainable development needed?		
		Yes	No	I don't know
School	Comprehensive	40.4	4.7	54.9
	Vocational	29.7	6.3	64.1
School year	First	24.4	5.8	69.8
	Second	37.0	4.8	58.2
	Third	49.2	4.4	46.4
	Fourth	58.7	6.5	34.8
Education profile	Extended curriculum in humanities	47.4	5.1	47.4
	Extended curriculum in natural sciences	47.6	2.9	49.5
	Mixed	33.8	5.8	60.4
	Extended curriculum in exact sciences	31.6	5.2	63.2
	Technical	29.4	6.7	63.9
In total		37.9	5.1	57.0

Source: own elaboration.

This question showed even greater differences in responses, depending on the type of school, school year and education profile (Table 4). Less doubt concerning the necessity of sustainable development was expressed by students of comprehensive schools. They provided more positive responses to this question. Moreover, young people's belief that sustainable development is needed seemed to be more established as they progressed in education stages – from under 1/4 of the first-year students to almost half of the third-year students and 59% of the fourth-year students. It should be added, that the biggest share of students expressing the need for sustainable development was recorded in classes with extended curriculum in humanities and natural sciences. The biggest group of sceptics and students not familiar with this issue was recorded in the case of mixed education profile, extended curriculum in exact sciences and technical education profile.

4. Conclusion

The idea of sustainable development still presents itself better in theory than in practice. There is still a range of barriers that prevent actual activities aimed at implementing this idea. Sadly – as the research shows – educational barrier in Poland is one of them. Secondary school students rarely encounter the idea of sustainable development and show significant gaps in the elementary knowledge about this idea.

The research results reveal a need for systemic approach to educating young people. At the level of secondary school, the knowledge about sustainable development should be reinforced and have a lasting effect on young people's attitudes. It should be developed in consistence with the basics that students learn in primary schools.

The process of educating people, who are supposed to live in the future, in line with sustainable development, should be wisely designed – from general knowledge (in primary school), through deeper knowledge about structures, relations and feedback based on systems and their simple models (in secondary school) to complex problems of sustainable development within different scientific disciplines (at university).

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References

1. Andrzejewska, J., Zwierzchowska, I. (2017). Przestrzeń ku zrównoważonemu rozwojowi w szwedzkich placówkach edukacyjnych – wspólne konstruowanie znaczeń. *Scientific Bulletin of Chełm – Section of Pedagogy, 1*, 65-82.
2. Bałachowicz, J. (2016). Idea zrównoważonego rozwoju w teorii pedagogicznej. In: L. Tuszyńska (ed.), *Koncepcja zrównoważonego rozwoju w kształceniu nauczycieli klas początkowych* (pp. 11-44). Warszawa: Wydawnictwo Akademii Pedagogiki Specjalnej.
3. Bałachowicz, J. (2017). Idea zrównoważonego rozwoju w edukacji dziecka. *Prima Educatione 2017*, 21-38. doi: 10.17951/PE/2017.1.21.
4. Batorczak, A. (2007). Indicators of education for sustainable development. In: A. Kalinowska, E. Lenart (eds.), *Wybrane zagadnienia z ekologii i ochrony środowiska : teoria i praktyka zrównoważonego rozwoju: wybór wykładów z lat 2004-2007*. Warszawa: Uniwersyteckie Centrum Badań nad Środowiskiem Przyrodniczym.
5. Batorczak, A. (2013). *Edukacja dla zrównoważonego rozwoju w Polsce i w Wielkiej Brytanii*. Warszawa: Uniwersytet Warszawski, Wydział Pedagogiczny.
6. Dacko, M., Płonka, A. (2017). Idea rozwoju zrównoważonego w opiniach i postawach rolników. *Roczniki Naukowe Stowarzyszenia Ekonomistów Rolnictwa i Agrobiznesu, XIX(1)*, 38-43. doi: 10.5604/01.3001.0009.8337.
7. *Ekspertyza dotycząca edukacji dla zrównoważonego rozwoju w Polsce*, 31.07.2019.
8. Hopwood, B., Mellor, M., O'Brien, G. (2005). Sustainable Development: Mapping Different Approaches. *Sustainable Development, 13*. doi: 10.1002/sd.244.
9. Jutvik, G., Liepina, I. (2008). *Education for change: A handbook for teaching and teaming sustainable development*. EU Comenius 2.1 Programme, Baltic University Programme Uppsala University.
10. Kaczmarczyk, S. (2014). Klasyfikacja metod zbierania danych ze źródeł pierwotnych w badaniach marketingowych. *Metody ilościowe w badaniach marketingowych, 195*, 55-64.
11. Kalinowska, A., Lenart, E. (2007). *Selected issues in ecology and environmental protection. Theory and practice of sustainable development. A selection of lectures from the years 2004-2007*. Warszawa: Uniwersyteckie Centrum Badań nad Środowiskiem Przyrodniczym.
12. Kędzierska, A., de Haan, G., Kolleck, N., Fischbach, F. (2013). Wybrane aspekty edukacji dla zrównoważonego rozwoju w Polsce na tle niemieckiego kontekstu. Niemiecki krajobraz edukacyjny w zapewnianiu jakości edukacji dla zrównoważonego rozwoju. *Debate Edukacyjna, 6*, 27-61. Retrieved from <http://rep.up.krakow.pl/>, 31.07.2019.
13. Kielczewski, D., Poskrobko, T. (2009). Dydaktyka ekonomii zrównoważonego rozwoju. *Problemy Ekologii, 13(5)*, 238-239.

14. Lorek, A. (2013). Edukacja dla zrównoważonego rozwoju na przykładzie Uniwersytetu Ekonomicznego w Katowicach. *Studia Ekonomiczne*, 131, 23-31.
15. Mącik, R. (2014). Ankiety internetowe w percepcji osób korzystających i niekorzystających z nich w pracy zawodowej. *Metody ilościowe w badaniach marketingowych*, 195, 125-139.
16. Michnowski, L. (1995). *Jak żyć? Ekorozwój albo?* Białystok: Wydawnictwo Ekonomia i Środowisko.
17. *Nasza Wspólna Przyszłość* (1987). Raport. ONZ.
18. Piontek, B. (2002). *Koncepcja rozwoju zrównoważonego i trwałego Polski*. Warszawa: PWN.
19. Prawo ochrony środowiska. Dz.U. 2001, nr 62, poz. 627.
20. *Przez Edukację do Zrównoważonego Rozwoju. Narodowa Strategia Edukacji Ekologicznej* (2001). Warszawa. Ministerstwo Środowiska.
21. Sobocińska, M. (2005). Badania marketingowe przez Internet. In: K. Mazurek-Łopacińska (Ed.), *Badania marketingowe* (pp. 223-265) . Warszawa: Teoria i praktyka.
22. *Strategia Edukacji dla Zrównoważonego Rozwoju* (2013). Warszawa. Ministerstwo Środowiska.
23. *Strategia Odpowiedzialnego Rozwoju dla Polski* (2018). Warszawa: Ministerstwo Inwestycji i Rozwoju.