Sustainable Development in Secondary Schools Curricula: The Polish Context

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Abstract. According to recommendations of the European Commission and the DESD (Decade of Education for Sustainable Development) principles, all teachers, at each education stage, should include in their curricula content-supporting efforts towards sustainable development. Knowledge is the basis for acquiring and developing competencies. Students' knowledge can be helpful for shaping their competencies in creating sustainable development in social, economic, and environmental spheres. This article presents the results of research on integrating the key issues of sustainable development in education programs. Research was conducted between March and November 2016, involving 337 teachers employed in lower and upper secondary schools. As the findings indicate, Polish teachers are not properly prepared to incorporate the key issues of sustainable development in their teaching practices.
Key words: education for sustainable development, curriculum, teacher, key issues of sustainable development.

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Introduction

Education is one of the most important components of the social system. It ensures effective activity of individuals and societies. Effectively organized education facilitates meeting many social objectives, such as sustainable development. School is where socialization happens, so it should be open to innovations, prepare students to face social changes, encourage them to take up challenges and participate actively in their local communities and society, and teach them

how to transform the existing social relations. Around the world, many people in community groups, government agencies, schools, colleges, and universities use teaching practices to promote sustainability in their lives and those of their neighbors (Hopkins, McKeown, 2002). The sustainable development goals can only be achieved by a learning society that adapts to new conditions promptly and actively thanks to properly planned and effectively implemented education. The concept of Education for Sustainable Development (ESD) was included in *Agenda 21*, the official document of the 1992 Earth Summit, namely Chapter 36 of Section IV (*Means of implementation*), which stipulates promoting education, public awareness and training related to sustainable development and environment protection. The document describes education as critical for promoting sustainable development. Since *Agenda 21*, there have been many other documents and publications regarding the principles of sustainable development education, its objectives, means of implementation, and recommended methods and format of teaching. *Agenda 21* states that education, both formal and non-formal, public awareness and training all over the world should be recognized as indispensable to sustainable development. Adequate educational initiatives and introduction of a new teaching model in schools will make sustainable and harmonious development of humans and, consequently, the world more likely. The document also declares that education worldwide must be reoriented towards sustainable development and environmental improvement. Education, including institutionalized education, should be recognized as a "process by which human beings and societies can reach their fullest potential."[1] It should be integrated in all disciplines by employing various didactic methods and effective means of communication.

Education for sustainable future is a huge challenge for education systems. It requires the following questions to be addressed: How can we better understand the complexity of our world? How are problems of today's world interrelated and what does it mean for people who try to solve them? What kind of world do we want in the future? Does this vision fit within the systems of sustaining life on Earth? How can we reconcile the requirements of economy, societies, and environment? The idea of education for sustainable development is the commitment to achieve balance between social and economic wellbeing, on the one hand, and cultures, traditions, and protection of natural resources, on the other. ESD emphasizes the need to respect human dignity, honor diversity, and protect the environment and natural resources on Earth (Kuzior 2014).

Education for sustainable development should be holistic as it needs to address all the aspects of human functioning in society and

[1] https://sustainabledevelopment.un.org/content/documents/Agenda21.pdf

nature and provide students with the knowledge, skills, tools, and instruments necessary for multi-dimensional coexistence with other animate and inanimate beings.

Education for sustainable development has at least four key postulates:

1) Integration postulate, addressing the holistic perspective that enables integration of many aspects of sustainable development (e. g. ecologic, environmental, economic, socio-cultural, local, regional, global, past, present, and future);
2) Critical postulate, which questions the prevailing patterns taken for granted that may be unsustainable (such as the idea of constant economic growth based on consumerism and relevant social lifestyle);
3) Transformative postulate, which consists in shifting from awareness to actual changes and transformations through strengthening the status and building the potential. The goal is to achieve a more sustainable lifestyle, adopt the relevant values, build sustainable communities, and create sustainable enterprises;
4) Contextual postulate, recognizing that there is no single, universal sustainable way of living or acting. Nations, societies, communities, and people should all learn from one another while bearing in mind that contexts are different and subject to change. Therefore, the sustainable way of living will change too, depending on the context and current needs of specific groups.

Jolanta Szempruch (2012) notes that the special role of education in sustainable development involves the following:

- Enabling learners to acquire skills, knowledge, and attitudes ensuring their harmonious (sustainable) development;
- Providing equal access to education at all levels and in all social contexts (family, school, professional or local community);
- Building awareness of the importance of lifelong learning;
- Developing social responsibility and promoting democracy by informing individuals about their rights and responsibilities;
- Supporting harmonious development of personality (Szempruch, 2012).

Over the past five decades, recognition of education as the key social strategy to elaborate a socio-economic model towards sustainable development has led to the creation of curricula in environmental education, civic education (for democracy), intercultural education, and global education. In some countries, for example in the UK, those curricula have been integrated into formal (schools and universities) and non-formal education (private institutions). As for the implementation of formal education programs, it is recommended to:

- Develop curricula that prioritize sustainable development;
- Provide sufficient information about environmental issues and human-nature relationships;
- Ensure that students can learn to care about nature and feel empowered to protect it;
- Enable students to develop their analytical and research skills as well as skills that will allow them to exercise active citizenship.

Supported by the non-formal activities, formal education prepares students for the future. From the perspective of sustainable development, it means that the focus on shaping critical thinking, communication, and debating skills (while emphasizing that learning, social participation, and decision-making in adult life are ongoing processes) should be at least as strong as the focus on acquiring the necessary knowledge for education to yield the best possible outcomes. Paul Vare and William Scott (2008) consider it important to discriminate between education for sustainable development (ESD1) and education as sustainable development (ESD2). The first approach, rooted in daily practice, mostly involves content and information sharing and provides guidelines regarding changes in environmental behavior and the way we think about our life at present. ESD2 is oriented towards dialogue and debate, focusing on controversial issues and developing critical thinking and decision-making skills that students will need in the complicated and uncertain world of the future.

The main objective of the whole school community (directors, teachers, students and their parents) within the National Environmental Education Strategy "Through Education to Sustainable Development" should be to use the opportunities included in the core curriculum to realize and consolidate the need to live according to the principles of sustainable development. The strategy offers the following guidelines to achieve this goal:

- Raise individuals who will be aware of their unity with nature and the socio-cultural environment;
- Shape the ability to observe the environment and gather information about it;
- Teach about the laws of nature, relationships in nature, and human-nature relationships;
- Develop the ability to solve problems according to the knowledge possessed and the value systems adopted;
- Stimulate sensitivity to the beauty of nature and spatial order;
- Inculcate respect towards life and health, both one's own and those of other beings;
- Introduce active forms of outdoor education;
- Promote cooperation among teachers in creating an atmosphere conducive to the achievement of the key ESD goals.

Daniella Tilbury (2011) singles out four main processes which are the base of education for sustainable development: (i) processes that stimulate innovations within the curricula and learning experiences; (ii) processes of active and participatory learning; (iii) processes that engage the "whole system"; and (iv) processes of collaboration and dialogue (including multiple-stakeholder and intercultural dialogue). The Global Monitoring and Evaluation Survey identified nine types, or formats, of teaching and learning associated with sustainable development. Some of them may be considered conventional (like transmissive pedagogy or disciplinary learning), and some more modern (like multi-stakeholder processes and social learning or the systems thinking approach).

Education for sustainability is "a method of reforming the education system as a whole to provide students with the skills they need for the challenges of the 21st century" (UNESCO 2011). It involves stimulation of critical thinking about the principles and values underlying the whole education context at all levels, and helping countries make progress towards the Sustainable Development Goals (Capelo, Santos, Pedrosa, 2011). The goal of education for sustainable development is to support attitudes of respect to human needs, which are in line with sustainable use of natural resources and caring about the planet. Another important role of education is to promote global solidarity. It means that people should act according to the principles of justice, empathy, and equality in their daily choices (*Education for sustainable development and holistic curriculum change. A review and guide*, 2012).

An important initiative promoting the principles and premises of education for sustainable development consisted in announcing the years 2005–2014 the Decade of Education for Sustainable Development (DESD), or the Decade of Change (UNESCO 2005; Barth, Godemann, Rieckmann, Stoltenberg, 2007; Wals A. E.J., Shaping the Education of Tomorrow. 2012 Report on the UN Decade of Education for Sustainable Development, Paris 2012; Buckler, Creech 2014). Activities during that Decade were designed to show teachers, students, and other stakeholders in education that formal and informal education were the only way to achieve sustainable development. One of the goals was to make teachers realize their incredibly important role in building a sustainable society. Effective education for sustainable development requires integration of the key issues of sustainable development into the general subject curricula. This is a huge challenge for teachers who should be literate in systems thinking (Sleurs 2008; Bointner, Braun-Wanke, Duchkowitsch, Kranzl, Piening 2011; Barth, Rieckmann 2012)—a competency that allows them to effectively integrate the most important issues of social, economic, and environmental aspects of sustainable development into their curricula. Regardless of the type of school and the subject taught, all teachers should implement the principles of the Decade of Education for Sustainable

Table 1. **Guidelines for the key issues of sustainable development to include in the lower and upper secondary school curricula in Poland.**

Subject/Group of Subjects	Recommended Curriculum Content
Polish language	Multiculturalism, the concept of "small homeland", national heritage, national diversity, uniqueness of Polish art on the international map, globalization, aspects of mass culture, women in culture and as creators of art, etc.
Humanities and social sciences (social studies, history, cultural studies, entrepreneurship)	Challenges of modern society, rights and obligations of the citizen, principles of functioning of the European Union, democracy, women's and children's rights, political systems of other countries, conflicts and ways of solving them, sustainable consumption and ways of producing goods, building a value system based on respect for the well-being of all people, etc.
Foreign languages	Culture of other countries; in addition, issues related to sustainable development are implemented, for example, when reading source texts, listening to recordings, etc.—while developing language competencies
Mathematics	Exercises related to the subject of sustainable development, such as overpopulation, protection of nature, natural resources, sustainable consumption, etc.
Natural sciences (biology, chemistry, physics, geography, family life education)	Sustainable management of natural resources, preservation/conservation of nature, protection of biodiversity, sustainable production methods, balanced diets, health as an integral part of sustainable development, striving for well-being in a sustainable way, ways of reducing pollution, etc.
IT	Protection of intellectual property, integrity on the web, internet security, proper use of new communication tools, culture of new media, etc.
Arts (music, visual arts)	Heritage of past generations as a common good and value, communicating through art, culture as a way of expressing oneself in a globalized world, etc.

Source: Mróz, Ocetkiewicz, Walotek-Ściańska, 2018; on the basis on curriculum review

Development, which means that they should also cover the key issues of sustainable development in the present and future in their curricula.

Ken Robinson and Lou Aronica (2015) point out that curricula set out frameworks of what students should know, understand, and be competent to do. In most schools, some parts of the curriculum are obligatory, while others are optional, like extra-curricular activities. Curricula can be formal or informal. A formal program is obligatory, with grades and exams, while the informal part includes voluntary activities. Teachers are quite free in selecting non-obligatory, optional content. It is worth to point out that, according to the DESD postulates, teachers are obliged to include in their curricula issues that may

contribute to the level of students' knowledge and awareness about the modern world's needs and to the acquisition and development of the key sustainable development competencies in them (de Haan 207a; de Haan 2007b; de Haan 2010; Mróz et al., 2018b). Guidelines for the key issues for sustainable development to include in the lower and upper secondary school curricula in Poland are shown in Table 1. It is up to teachers to determine the extent to which they will address these issues in their didactic process.

Problem of Research

Based on the analysis of the subject matter literature, we assume that integration of the key issues of sustainable development into the curricula of all subjects, at every stage of education is one of the prerequisites for effective education for sustainable development. Behavior change for sustainable development is based on the knowledge about sustainable development premises, principles, and goals. In our study, we investigate which of those issues Polish teachers introduce into their curricula on a regular basis. With this in mind, the following research questions are formulated:

(1) Which of the key sustainable development issues do teachers include in their curricula at 3rd and 4th education levels?
(2) How do teachers integrate those issues into their curricula?

Analysis of research results will help determine the level of integration of the ESD principles in schools, where the study was conducted, and their education programs.

Methodology of Research

The research was conducted with a nomothetic approach within a quantitative paradigm, using the survey method (Babbie, 2013). Survey questionnaire is the most popular survey research technique that provides large amount of data in a short period of time. Using anonymous survey, researchers may also expect honest and objective answers (Babbie, 2013). To find answers to the research questions, an original survey questionnaire addressed to teachers was developed. It consisted of three parts, and one of them was dedicated to the key issues of education for sustainable development and their integration in school curricula.

The research tool was designed based on the theoretical framework presented in the *Introduction* section. Considering the research assumptions related to the problems presented, that is, emphasis on the descriptive aspect of sustainable development curricula, we used nominal variables which were analyzed by means of descriptive statistics and internal comparisons as well as comparisons with independent variables. For this purpose, contingency table analysis was performed and the strength of the association between the nominal

variables was shown using the chi square test with derivatives. The analysis was performed using STATISTICA software (Nachmias, Nachmias, 2007).

General Background of Research

The goal of research was to explore and describe how key ESD issues are integrated into curricula at the 3rd (lower secondary) and 4th (upper secondary) levels of education. This is important, as according to recommendations of the European Commission and the DESD principles, all teachers, at each education stage, should include in their curricula content-supporting efforts towards sustainable development. Students' knowledge may be helpful for shaping their competencies in creating sustainable development in social, economic, and environmental spheres.

The subject of our research was the sustainable development-critical issues that teachers regularly integrate into their curricula and the ways they implement them during classes. For this purpose, we used the survey method which allowed collecting a great amount of data from a large number of respondents within a short period of time.

Sampling

In order to collect data for research, convenience sampling (Christensen, Johnson, 2011) was applied in accordance, the only criterion being whether the participants agreed to take part in the survey. The advantage of convenience sampling is that it allows identifying the relations between phenomena. However, it is fraught with bias, meaning that the sample may be not representative. The respondents invited to take part in the survey were teachers of general subjects in lower and upper secondary schools. In order to collect the data, we distributed printed questionnaires in the lower and upper secondary schools in the Małopolska region. Following the principles of convenience sampling, we had chosen this region as appropriate for our study (based on the availability of respondents and their consent to participate in the survey). Małopolska region is also a specific area to investigate teachers. Educators working in schools have a wide access to different formats of learning and professional development, as there are many pedagogical universities and institutions offering various forms of vocational training.

During the survey, the teachers were asked to choose issues that they addressed during their classes (integrated into their curricula) on a daily basis. The issues listed in the questionnaire were selected based on a review of literature devoted to education for sustainable development. The teachers were also asked to declare which methods of implementation they used most often — we wanted to find out whether they covered the key sustainable development issues during the classes (direct interaction with students), introduced them as they gave home assignments (indirect interaction with stu-

Table 2. **Teachers' demographic statistics** (*N* = 337)

Gender	Female	78%
	Male	22%
School location	Village	38%
	Town	40%
	City	22%
School level	Lower secondary	53%
	Upper secondary	47%
Years of employment	0–5	11%
	6–10	19%
	11–15	25%
	16–20	30%
	21 and more	15%
Teacher category	Trainee	5%
	Contractual teacher	13%
	Appointed teacher	24%
	Chartered teacher	58%

Subject taught	Polish language	18%
	Human and social sciences (social studies, history, cultural studies, entrepreneurship)	20%
	Foreign languages	22%
	Mathematics	11%
	Natural sciences (biology, chemistry, physics, geography, family life education)	26%
	IT	2%
	Arts (music, visual arts)	1%

dents), or addressed them during additional classes or out-of-school activities.

There were 927 questionnaires distributed, of which 337 were completed. Demographic statistics of the respondents is presented in Table 2.

Results of Research

Analysis of the research results revealed that respondents included such key issues of sustainable development as the values of good, justice, responsibility, solidarity, and tolerance in their curricula, nearly 85% opting for this response. Teachers often discuss the problems of responsible use of media and environmental protection with their students, which were selected by 76% and 73.6% of the respondents, respectively. Issues related to children's rights are covered relatively often during classes with children and youth (indicated by 60.2% of the respondents). More than half of the teachers address issues of gender equality (54%), building a civil society (53.7%), and responsible consumption (51%). Problems of sustainable management of natural resources (46.6%) and climate disaster prevention (45.7%) are included in curricula slightly less frequently. Sustainable economy and fair trade were discussed the least of all (28.2% and

Table 3. **Key issues of education for sustainable development integrated by teachers into their curricula**

Issues integrated into curricula	Subject taught (%)					
	Polish language	Humanities and social sciences	Foreign languages	Mathematics	Natural sciences	Average
Responsible consumption	50.00	44.78	47.30	52.78	60.47	51.39
Fair trade	21.67	31.34	29.73	30.56	31.40	29.10
Civil society	68.33	67.16	54.05	33.33	41.86	53.87
Sustainable economy	21.67	34.33	21.62	30.56	40.70	30.34
Environmental protection	60.00	59.70	87.84	63.89	86.05	73.68
Climate disaster prevention	30.00	31.34	63.51	36.11	60.47	46.75
Responsible management of natural resources	26.67	43.28	51.35	41.67	63.95	47.37
Values: good, justice, responsibility, solidarity, tolerance	96.67	88.06	90.54	77.78	73.26	85.14
Gender equality	66.67	53.73	62.16	33.33	52.33	55.42
Children's rights	71.67	65.67	64.86	44.44	53.49	60.99
Responsible use of media	85.00	74.63	85.14	66.67	63.95	75.23
None of the above	0.00	0.00	0.00	5.56	0.00	0.62
Other	3.33	7.46	1.35	0.00	1.16	2.79
Total	100	100	100	100	100	100

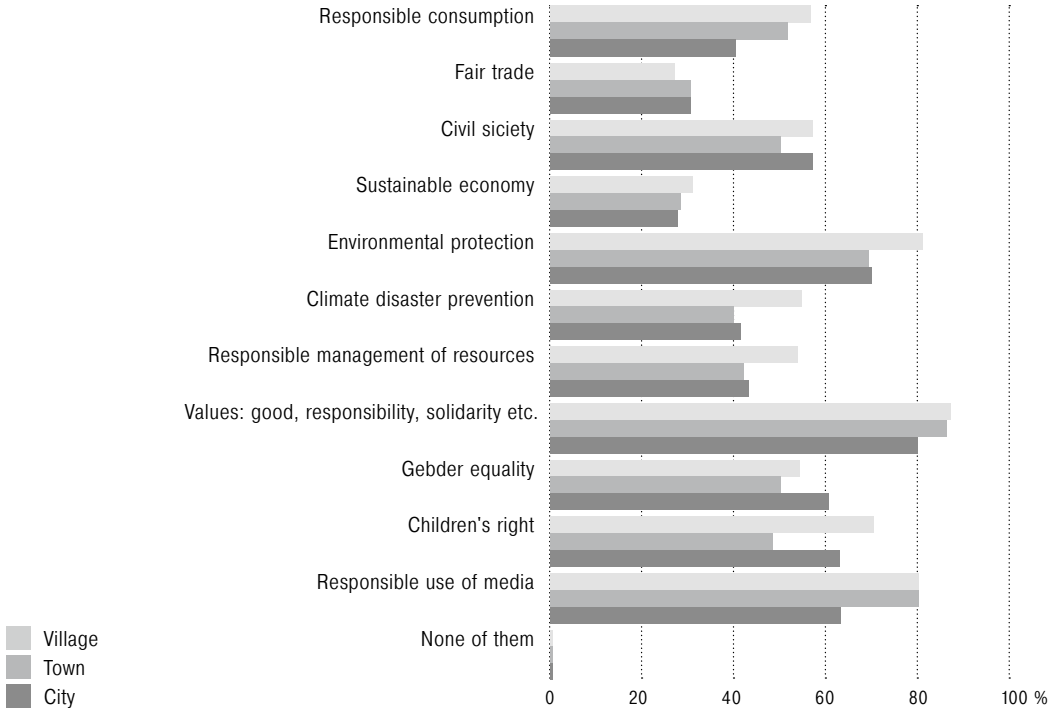
29.1%, respectively). Only two respondents selected none of the listed options. In total, 13.1% of all the respondents were found to cover all the issues listed in the questionnaire in their teaching practices.

The choice of specific topics is not affected by such variables as school level (lower secondary, upper secondary), teacher's years of employment, category, or gender. School location proved to explain more of the diversity of issues addressed by the teachers than any other variable.

The findings imply that teachers in rural schools are slightly more likely to emphasize the need for protection of environment. They discuss the issues of natural disasters and prevention thereof more often than teachers in schools located in urban areas.

Students in rural schools also learn more often about the responsible use of natural resources, which are now being degraded at an unprecedented scale. In cities, meanwhile, teachers are more likely (as compared to teachers in villages and towns) to discuss the issue of equal rights for both genders with their students. However, children's rights are more often discussed by teachers in village schools. The

Figure 1. **Diversity of key ESD topics and location of school**



problem of responsible use of media is covered most often by teachers who work in towns.

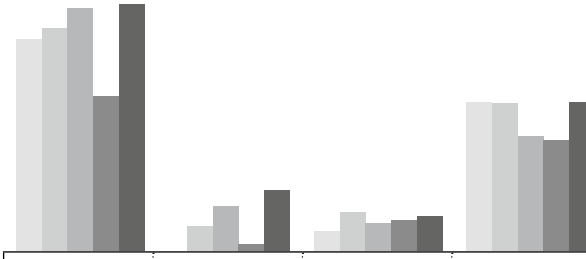
Ten respondents added their own examples of key ESD-related topics they include in their curricula. Those were: *sustainable transport* (two chartered teachers of geography, cities), *protected areas* (two biology teachers, one chartered and one appointed, city and town), *colonization and its effects* (one appointed teacher of history and civic education, town), *nuclear energy industry* (one appointed chemistry teacher, city), *aquatic environment protection* (one trainee teacher of biology, village), *human health* (one chartered biology teacher, town), *social justice* (contractual teacher of history, town), and *sustainable economy* (chartered teacher of civil education, city).

What we also intended to find out was how teachers integrate the abovementioned issues into their curricula. Analysis revealed that they key sustainable development issues were most often covered by including them as topics taught during subject lessons. This practice is used “very often” by 63.2% of the respondents and “sometimes” by 29.1%. Another frequently used method consists in encouraging students to after-school activities and participation in various social initi-

Table 4. **Methods of integrating the key issues of sustainable development into curricula** (%)

	Never	Occa-sionally	Some-times	Very often	Total
Included as topics taught during subject lessons	3.56	4.15	29.08	63.20	100
During additional classes, for example interest clubs	54.0	24.03	12.16	9.79	100
Including the key ESD issues in homework assignments	18.99	31.75	40.95	8.31	100
Encouraging students to engage in out-of-school activities, social initiatives, etc.	9.50	13.35	37.39	39.76	100

Figure 2. **Methods of integrating the key ESD issues used by teachers of different subjects**



	Included as topics taught during subject lessons	During addi-tional classes, for example interest clubs	Assigning homework connected with the areas of sustainable development	Encouraging students to take up out-of-school activi-ties, partici-pate in social initiatives etc.
Polish language	60.00	0.00	5.00	43.33
Foreign languages	62.69	5.90	10.45	41.79
Human and social scienties	68.92	12.97	8.11	32.43
Mathematics	44.00	1.11	8.33	30.56
Science and natiral scienties	69.77	16.74	9.30	41.86

Figure 3. **Covering ESD-related topics during subject lessons depending on school location**

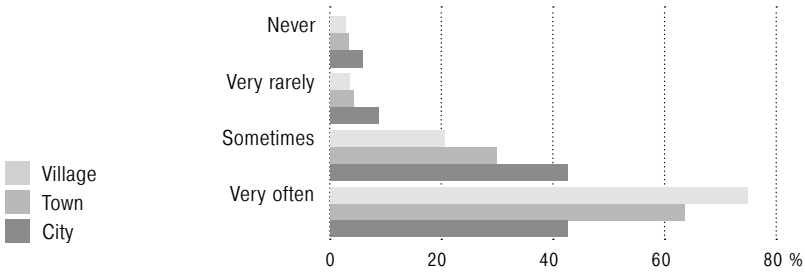


Table 5. **Covering ESD-related topics during subject lessons depending on school location: Pearson's chi-square test**

	Value	df	Asymptotic significance (2-sided)
Pearson's χ^2	21.428[a]	6	0.002
Likelihood Ratio	20.838	6	0.002
Linear-by-Linear	16.344	1	0.000
N of Valid Cases	332		

[a] 33.3% of cells (4) have expected count less than 5. The minimum expected count is 2.25.

atives. This method is practiced "very often" by almost 40% of the respondents and "sometimes" by 37.4%. ESD topics are also discussed during extra-curricular activities, for such as interest clubs. This method is used by 46% of the respondents in total. However, fewer teachers use it "often". The least frequently used method is integrating sustainable development issues into home assignments, which 41% use "sometimes", 31.8% "occasionally", and only 8.3% "very often".

During analysis of the research results, correlations between the chosen methods of integrating the key issues of sustainable development into curricula and the specific variables were examined. Pearson's chi-square test revealed a correlation at the significance level below 0.05.

Figure 2 shows the most frequently used methods that teachers of different subjects use to integrate ESD-related topics into their curricula.

The method of covering ESD-related issues as topics during subject classes also depends on school location (the size of population in the area where the school is located). The correlations are shown in Figure 3.

Figure 4. **Including ESD-related topics during subject lessons depending on teacher category**

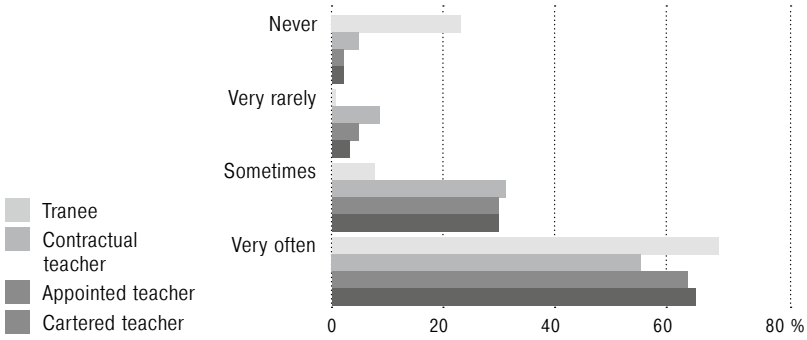


Table 6. **Including ESD-related topics during subject lessons depending on teacher category: Pearson's chi-square test**

	Value	df	Asymptotic significance (2-sided)
Pearson's χ^2	21.140[a]	9	0.012
Likelihood Ratio	14.363	9	0.110
Linear-by-Linear	3.875	1	0.049
N of Valid Cases	336		

[a] 43.8% of cells (7) have expected count less than 5. The minimum expected count is .46

This correlation may be explained, among other things, by the fact that teachers in village schools have less opportunities to encourage students to engage in out-of-school activities for sustainable development such as social initiatives, meetings with experts, etc. The correlation between integrating ESD issues into subject lessons and teacher category is also statistically significant. The correlations are presented in Figure 4.

Discussing the key sustainable development issues during additional classes also correlates with teacher category. The correlations are shown in Figure 5.

Additional classes during which the key sustainable development topics are discussed are most often delivered by contractual teachers and — somewhat less frequently — by trainees. Trainee teachers are the youngest and the least experienced ones. In order to obtain a higher category, they have to prove their expertise, skills, and engagement in the life of their school and local community.

Figure 5. **Discussing key sustainable development issues during additional classes depending on teacher category**

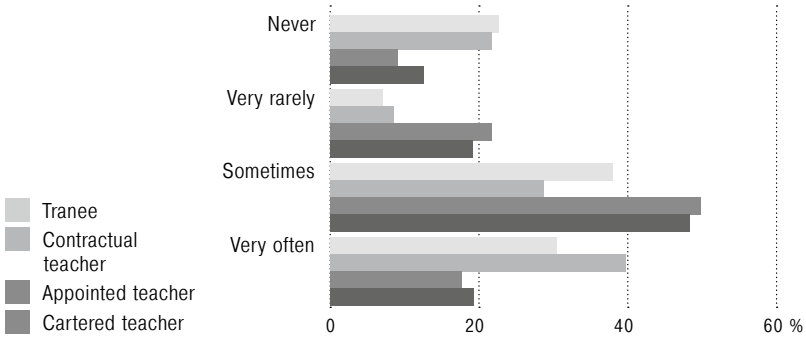


Table 8. **Discussing the key sustainable development issues during additional classes depending on teacher category: Pearson's chi-square test**

	Value	df	Asymptotic significance (2-sided)
Pearson's χ^2	19,658[a]	9	0,020
Likelihood Ratio	19,154	9	0,024
Linear-by-Linear	0,363	1	0,547
N of Valid Cases	336		

[a] 18.8% of cells (3) have expected count less than 5. The minimum expected count is 1.78.

Table 9. **Assigning homework connected with issues of sustainable development and taught subject**

Including the key ESD issues in homework assignments	Subject taught (%)					
	Polish language	Humanities and social sciences	Foreign languages	Mathematics	Natural sciences	Average
Never	21.67	16.42	16.22	38.89	15.12	19.50
Occasionally	23.33	31.34	32.43	41.67	34.88	32.20
Sometimes	50.00	41.79	43.24	11.11	40.70	39.94
Very often	5.00	10.45	8.11	8.33	9.30	8.36
Total	100	100	100	100	100	100

Figure 6. **Discussing the key sustainable development issues during additional classes depending on school location**

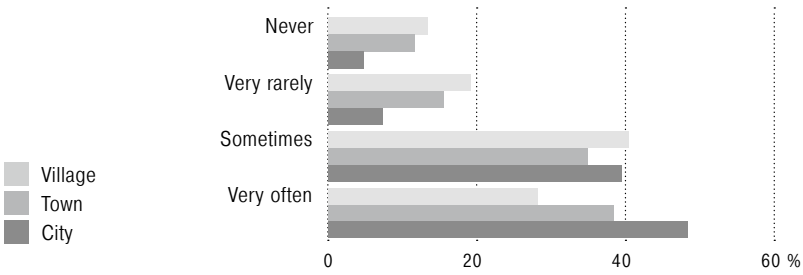


Table 10. **Discussing the key sustainable development issues during additional classes depending on school location: Pearson's chi-square test**

	Value	df	Asymptotic significance (2-sided)
Pearson's χ^2	22.653	6	0.001
Likelihood Ratio	23.532	6	0.001
Linear-by-Linear	18.109	1	0.000
N of Valid Cases	332		

Analysis of the results revealed a correlation between including the key ESD issues in homework assignments and the subject taught. The results are presented in Table 9.

Methods of encouraging students to engage in various out-of-school initiatives are determined by school location. The correlations are shown in Figure 6.

Data analysis indicates that students are most often encouraged to be active in their local community by teachers in urban schools, followed by teachers in schools located in towns. It is worth to point out that teachers in cities obviously have more opportunities to participate in various initiatives than those working in rural areas.

Conclusion

To summarize the research results, we need to emphasize that, although most respondents declaring that they integrate the key ESD issues into their curricula, they were unable to name their own examples of relevant topics covered in their work with students. Teachers

tend to discuss the most universal issues, paying less attention to the problems of biodiversity protection, use of renewable energy sources, and natural disaster prevention. Importantly, teachers consider education for sustainable development to be holistic and try to address not only the issues relative to their subject but also the problems critical for sustainable development as a whole (Tsankov, 2017).

Teachers declare that they often integrate the key sustainable development issues into out-of-school activities, such as home assignments, additional classes, and social initiatives. It is worth to point out that the paradigm of sustainable development, suggests that teachers, as active members of their local communities, should engage in improving sustainability of such communities to promote harmonious development of all its members. Thus, integration of the key sustainable development issues into education by encouraging students to be socially active appears to have a great value. However, local efforts will not yield the intended results if they are not accompanied by fostering students' competencies as part of the schooling process.

For the sustainable development postulate to be implemented, all teachers must raise students' awareness about sustainable development. Therefore, teacher education students should be provided with basic knowledge on the sustainable development, raise their awareness about it, and develop relevant attitudes.

In order to effectively implement the principles of ESD, teachers must collaborate with one another; they should point their students to systemic solutions instead of limiting the content of their teaching to their subject alone. Cooperation with the local community is also necessary, but it requires that teachers engage with their local environment out of school and involve many people in mutual activities.

The vast majority of teachers try to integrate the key sustainable development issues into their curricula, but they do not always know how to do it. Even though they can identify the most important areas, they cannot include them effectively in their programs or engage students during the classes.

Under the conditions of a global crisis, education represents the most efficient way of forming the social and intellectual basis for implementing the principles and ideas of sustainable development and coevolution (Nasibulina, 2015). It should be borne in mind that the content of educational programs determines to a large extent whether students will demonstrate awareness and knowledge about the needs of the modern world. A sustainable future is possible through education of the next generations. In this respect, the role of teachers is significant and indisputable. They should provide students with knowledge and skills, shape attitudes, and thus support the acquisition and development of key competences for the sustainable future of the world. They can do this by integrating, in various ways, the key issues of sustainable development into their curricula.

Teachers must be aware of how important it is for students to know about the principles and issues of sustainable development. Such awareness will enable a behavioral change promoted by ESD. It should be remembered that properly planned and effectively implemented education is fundamental to achieving the social goals. At present, one of the high-value social goals consists in building sustainable societies, which can be achieved indirectly with the help of teachers who will effectively implement the ESD principles, starting from including the key ESD issues into their curricula.

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