

EDUCATION FOR SUSTAINABILITY - PRIORITY IN EDUCATION IN ROMANIA

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Abstract

The concept of sustainable development is extremely complex and is based on meeting current needs without compromising the ability of future generations to meet their own needs. In the analysis of the concept of sustainable development, it is considered that man is the main pawn and due to this desideratum, the concept of sustainable human development is also used. At the state level, it is necessary, in this context, to make sustained efforts to transform sustainability into a national, but above all, global project. Young generations, responsible for their future, must master certain concepts of sustainability in order to be able to identify them in everyday life, because otherwise, without a sustained effort, there is the possibility of irretrievable deterioration of living conditions and quality of life for all of us, but especially for the following populations. Education for Sustainable Development must be a global priority. Following the research carried out, we are convinced that the discipline of education for sustainable development could change the students' perception of the complex issues specific to the 21st century.

Keywords: *education for sustainable development, sustainable development, sustainable development goals, globalization.*

Classification JEL: F63, I25

1. Introduction

The concept of sustainable, viable or sustainable development arose in response to the emergence of environmental problems and the crisis of natural resources.

After the Second World War, as a result of the way of using the results of the development of the factors of production, the premises of a serious ecological imbalance accumulated at an extremely fast pace. From the moment when the natural environment could no longer absorb the shocks received as a result of human intervention, an ecological crisis broke out. It was the first time in history that man faced such a phenomenon, so wide and deep, generated by his own activity.

Initially, the concept of sustainable development was thought as a solution to the ecological crisis caused by the uncontrolled and intensive industrial exploitation of resources and the continuous degradation of the environment. The damage caused to the environment led to the need to adopt a strategy to preserve the quality of life in its complexity and from an economic and social aspect. Over time, the goals of sustainable development are oriented towards justice and equity between states, not just between generations. [1]

The term sustainable development was launched with the publication of the Brundtland Report of the World Commission on the Environment in 1987, suggestively titled Our Common Future.

The concept began to become widely known after the International Conference on Environment and Development, organized by the UN in Rio de Janeiro in 1992 known as the "Earth Summit" in which representatives from approximately 170 countries participated and Agenda 21 was developed or the Sustainable Development Agenda – a plan to support it.

In 2015, during the work of the UN Summit in New York, the 2030 Agenda for sustainable development was adopted. Through this document the UN has provided a universal agenda with clear and quantifiable objectives. The 2030 Agenda includes a set of 17 Sustainable Development Goals (SDGs) and a 15-year action plan.

The Sustainable Development Goals are a call to action by all countries – developed and developing – to promote prosperity while protecting the planet. At the UN level, for the 193 member states, Sustainable Development Goals (ODD) have been defined, which are called SDG - Sustainable Development Goals, based on which the implementation of the concept of sustainable development at the global level is calculated and evaluated.

The Sustainable Development Goals of 2015 replaced the eight Millennium Development Goals adopted in 2000 in New York, during the Millennium Summit, namely: eradication of poverty and hunger; achieving a universal primary education; promoting gender equality; reducing infant mortality; improving the health of expectant mothers; combating AIDS/HIV, malaria and other diseases; ensuring a sustainable environment; developing a global partnership for development [8]

Unfortunately, the progress in achieving the Millennium Goals has been uneven, thus requiring a new commitment by the UN states, which can be found in the 2030 Agenda.

Achieving the 17 sustainable development goals by the countries involved in the implementation of this strategy is a global priority.

2. The importance of sustainability in the education of young generations

Education for Sustainable Development (EDD) is multi-dimensional education (Dumitru Daniela, 2020) and represents a paradigm based on ethics, "which aims to develop skills that help individuals reflect on their own actions, taking into account their current impacts and future, social, cultural, economic and environmental." (Department for Sustainable Development, 2018).

Therefore, education for sustainable development should not be limited to a strictly ecological analysis. It represents a broad concept, bringing together interconnected aspects of the environment, as well as social and economic issues. Access to quality education is essential for the proper functioning of a sustainable society. At the level of educational institutions, it is necessary to implement the basic notions of sustainability, because sustainable development is a new paradigm about the functioning of society, and its benefits must be accessible to all, especially for the young generations who must understand that the environment, the economy and technologies can be compatible with man.

A series of Romanian and foreign authors address the issue of education for sustainable development. Learning-for-sustainability-based change challenges educators to think beyond raising awareness and move beyond just engaging learners in one-off activities like cleaning up or planting trees. While these are useful and beneficial activities, it is essential that students are encouraged to develop critical and systemic thinking skills that enable them to get to the heart of issues. This reflects the major change in thinking in education [3]:

- through education for sustainable development, competences considered relevant at the international and national level can be ensured, critical thinking, problem solving, communication, collaboration, flexibility and adaptability [5];

- by acquiring, early on, the concept of sustainable development, the young generations will understand that meeting unlimited needs, against the backdrop of global population growth, will allow them in the long term to have much greater access to the necessary resources, respectively through;

- conservation of natural resources;
- much more rational use of economic goods, including technologies of the new century;
- the transformation of society in a direction that ensures a dignified and prosperous life for

them;

- the use of quality healthcare services for the proper functioning of a sustainable society;
- achieving gender equality as a priority indicator for a sustainable society;
- education as a fundamental field for the future of generations that coexist and succeed each other;
- permanent adaptation to changes in the globalized labor market, with an emphasis on innovation, robotization and digitization etc.

Education is a process that prepares young generations for the challenges of the future by encouraging meritocracy, innovation, critical thinking, conduct and curiosity.

Students around the world have the chance to acquire the knowledge, skills and attitudes needed to promote sustainable development and achieve the 17 Sustainable Development Goals (SDGs).

At the United Nations level, since the early 2000s, education for sustainable development has been a priority. Thus, the decade 2005-2014 was declared by the United Nations as a Decade of Education for Sustainable Development. According to UNESCO, there are many paths to sustainability, for example, sustainable agriculture and forestry, research and technology transfer, financing, sustainable production and consumption, etc. Education is one of those avenues. Education alone cannot achieve a more sustainable future, but nevertheless, without education for sustainable development, we will not be able to achieve these goals [6]. Currently, UNESCO supports the implementation of the Global Program of Action on Education for Sustainable Development.

Education for sustainable development must be a lifelong learning process and an integral part of quality education. Education for sustainable development is recognized as an integral element of the 2030 Agenda, particularly Sustainable Development Goal 4 (Quality Education) and a key enabler for all other SDGs.

3. Romania and education for sustainable development

As a member state of the UN, but also of the EU, Romania assumed the establishment of a national framework for the implementation of the 2030 Agenda for Sustainable Development, which includes the 17 Sustainable Development Goals.

According to the National Strategy for the sustainable development of Romania 2030, the acquisition of necessary knowledge and skills is desired for all students, in order to promote sustainable development. At the same time, the introduction of sustainable development into formal university education is considered, as well as emphasizing the role of interdisciplinary research in the development of a sustainable society.

At the university level, in the educational plans of the faculties with an economic profile, geography, exact sciences and engineering, etc., the discipline of Sustainable Development can be found, especially in master's studies.

At the level of pre-university education in Romania, however, Education for Sustainable Development is not found in the national curriculum.

Education for Sustainability is carried out both non-formally and informally and through the many collaborations that the ministry has with local and central public authorities, economic agents and non-governmental organizations. In pre-university education, the specific themes of these collaborations refer to children's rights, poverty reduction, environmental protection, rural and urban development, equality and diversity, civil rights and social responsibilities at the local/regional/global level, tolerance and respect, natural resource management.

At the level of pre-university education, there have been and are still noteworthy, a series of initiatives by schools, teachers, local authorities, NGOs of actions aimed at involving students,

from an early age, in activities related to environmental protection, understanding the notion of sustainability, organizing courses that address this issue, both for students and teachers.

There are initiatives aimed at sustainability education, but they are isolated and the results are to be expected. It is true, however, that students discover certain information about sustainability in some subjects, such as Economics, Geography, Social Education, Entrepreneurial Education, etc.

With the exception of extracurricular activities or those within the School Otherwise or Green Week program, some isolated situations aimed at the participation of some schools in various projects related to sustainability, we cannot speak of remarkable achievements.

4. Metodology

In the research I carried out, I started from the question **Do high school students have knowledge about sustainability?** And we stopped at the students of class X.

The purpose of the study is to highlight the fact that Education for Sustainable Development should be found in the national curriculum, as a compulsory subject, because high school students, mainly those in the 10th grade, where I conducted the research, do not have knowledge about sustainable development, although in the lower classes, in the school programs of subjects such as Geography, Entrepreneurial Education, Social Education, etc. certain aspects related to the issue of sustainability are addressed.

The objectives of the research were the following:

Determining the level of knowledge of 10th grade students, from a high school in Rm. Vâlcea, about sustainability;

Increasing the level of knowledge of 10th grade students regarding the Sustainable Development Goals;

10th grade students' understanding of sustainable development as a complex concept, bringing together interconnected aspects of the environment, as well as social and economic issues.

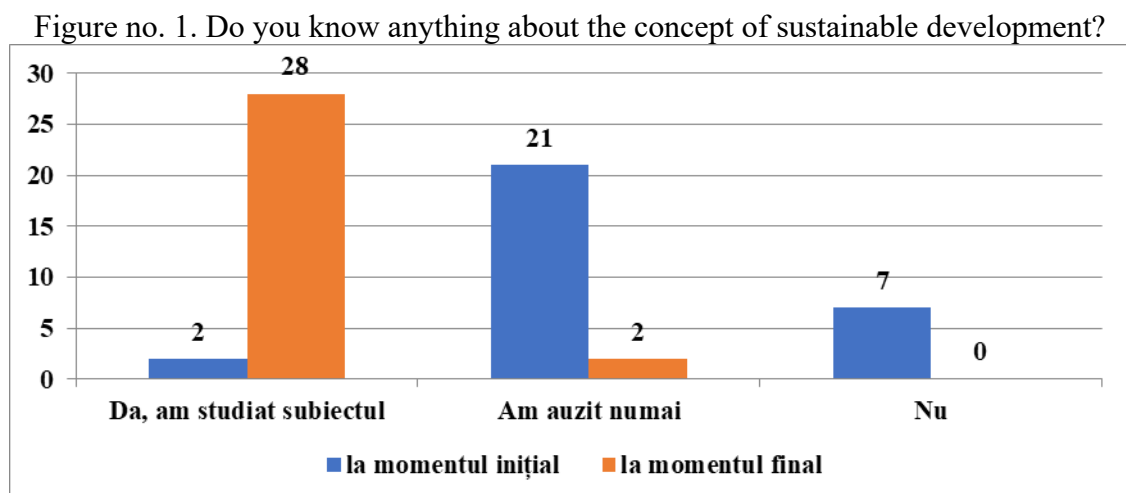
The basic premise from which we started in this research was that in order to propose a series of recommendations and solutions for the integration of education for sustainable development in the school curriculum it is essential to highlight the importance of these concepts for the younger generations, so that they can make conceptual delimitations, make various connections with real life, etc.

The research is carried out with the participation of 30 students from the 10th grade, from a high school in Rm. Vâlcea, and in the selection of these students we also took into account the fact that they have not yet completed the discipline of Economics (within it, notions about sustainability).

In order to measure the level of knowledge of the 10th grade students about sustainability, we applied a **questionnaire**, from which we can deduce which concepts the research participants have substantiated, how familiar they are with the notion of sustainable development starting from the idea that over the years before school, in certain subjects, the issue of sustainability was addressed. This tool aims to determine the global progress of knowledge about sustainability, so it was applied before and after the intervention.

In order to achieve the outlined objectives, we resorted to two interactive meetings, which included a lecture (workshop - debate) to convey the notions of sustainable development, which would allow us to examine the variables subject to research. Through such workshops - debate, the development of students' creativity, critical thinking and verbal communication skills is allowed. The research aimed to highlight how much the students understood and assimilated from the two lectures.

In one of the questions, the respondents had to say if they know anything about the concept of sustainable development (Figure no. 1).

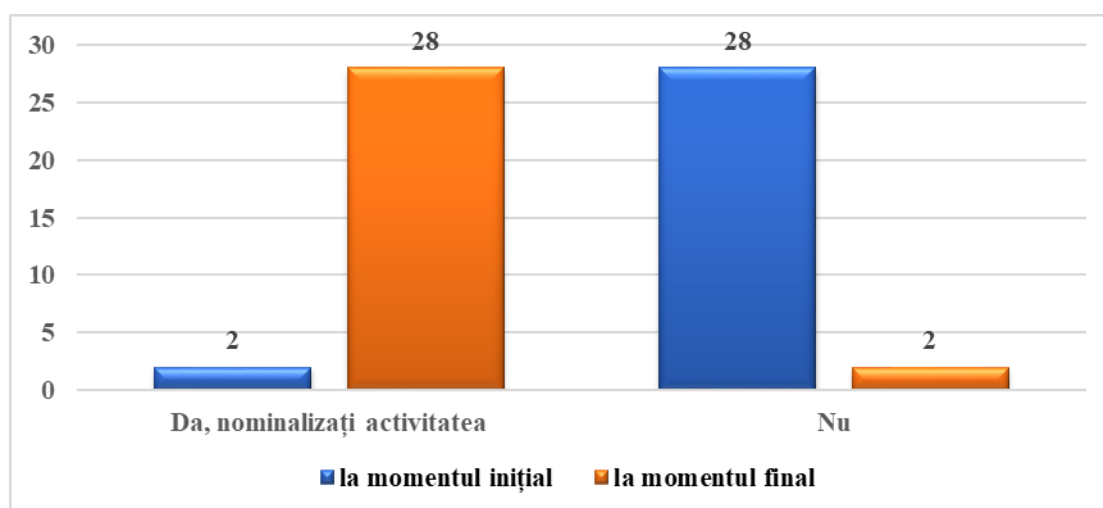


Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

At the first application of the questionnaire, the answers focused on the option "I only heard" (21 people, that is, more than two thirds) and only 2 respondents studied this topic. At the subsequent application of the questionnaire, 28 students answered that they had studied the subject and only 2 stated that they had only heard (Figure no. 1). The results from the second application of the questionnaire are due to the fact that they listened to the lectures on sustainable development, this fact proving the need to introduce a discipline of Education for Sustainable Development.

Another question concerned the activities related to sustainability (sustainable development) and its awareness organized in the school.

Figure no. 2. Have you seen/heard activities related to sustainability (sustainable development) and its awareness in school?



Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

Initially, only 2 students answered in the affirmative, nominating as activities the collection of used batteries and the use of sustainable materials, so that in the second administration of the

questionnaire the weights were reversed, i.e. 28 answered affirmatively and nominated the lectures on sustainability as activities, alongside of the other 2 previously nominated activities (Figure no. 2).

One of the open-ended questions asked respondents to say what quality education means to them. The answers focused on two aspects related to quality education: the way of achievement and the effects.

As can be seen from the analysis of the results (Table no. 1), 55 answers were given to both applications of the questionnaire, the weights of the two types being almost equal: 27 refer to the method of implementation and 28 refer to the effects.

Table no. 1. What does ensuring a quality education mean to you?

	Response type		Total
	method of realization	effects	
Initial application of the questionnaire	13	14	27
Final application of the questionnaire	14	14	28
Total	27	28	55

Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

Thus, in terms of effects, according to the respondents, ensuring a quality education means: a better and safer future; superior personal development; fulfillment on all levels; professional development; a more complex thinking, as well as the ability to develop yourself; a rich and lasting intellectual development; various benefits in the economy and supporting an economic development; the right to a better life; other living conditions; reducing illiteracy and dropout and even eliminating differences of any kind.

From the perspective of the method of achievement, according to the students, ensuring a quality education means: well-trained teaching staff, the spaces where these activities are carried out brought up to European standards; access to more information and technology; reducing school dropout as a starting point; the inoculation from the youngest ages of practical skills; investments made by the state in everything that means education; ensuring good teacher-student communication and vice versa; respecting the right to education, regardless of area and income; better involvement of parents and teachers; the focus of education on the formation of skills and the acquisition of notions directly applicable in everyday life.

Table no. 2 Highlighting the standard deviations recorded, before and after the intervention, in the subjects' responses to two questions

(On a scale of 1 to 10 where 1 = "Not at all necessary" and 10 = "Very necessary", please select your option: A - regarding the need for knowledge related to sustainability/sustainability in high school and B - appreciate how important Sustainable Development can be to provide the solution that best meets the demands of modern life)

Item	Statistical indicator					
	Initial application of the questionnaire			Final application of the questionnaire		
	Arithmetic mean	Standard deviation	The coefficient of variation (%)	Arithmetic mean	Standard deviation	The coefficient of variation (%)
A	8,17	2,24	27,40	8,80	1,85	21,04
B	8,23	1,98	24,02	9,13	1,77	19,33

Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire

In the general opinion of the respondents, sustainable development has a high importance in providing the solution that best meets the requirements of modern life, as it results from the average

score (Table no. 2) which, in addition, increases from the first application of of the questionnaire at the second (from 8.23 to 9.13). At the same time, the opinions of the respondents do not differ much from each other, since the standard deviations register relatively low values (1.98 and 1.77). And in question B, the coefficient of variation has low values (24.02 % and 19.33 %), located below the threshold of 35 %, which shows that the means are representative.

Also, the question can be raised whether the average scores obtained on question A differ significantly from each other or not, and in this sense the t-Student test is used to compare the averages.

Table no. 3 Results of the t-test comparing the means for the answers to questions A and B (On a scale of 1 to 10 where 1 = "Not at all necessary" and 10 = "Very necessary", please select your option: A - regarding the need for knowledge related to sustainability/sustainability in high school and B- appreciate how important Sustainable Development can be to provide the solution that best meets the demands of modern life)

	Paired Differences					t	df	Sig. (2-tailed)
	Me an	Std. Deviatio n	Std. Error Mean	95% Confidence Interval of the Difference				
				Low er	Lower			
Pair 1 A_I - B_F	-.633	.809	.148	-.935	-.331	-4.289	29	.000
Pair 2 A_I - B_F	-.900	.845	.154	-1.215	-.585	-5.835	29	.000

Source: made by the authors based on the processing of the answers obtained following the application of the questionnaire, by means of the SPSS software

The output provided by SPSS (Table no. 3 first line (Pair 1 A_I - B_F)) shows us the value of the t statistic -4.289 and the associated probability (Sig. (2-tailed)), which is lower than the significance threshold 0.05, which shows that the two means differ significantly. The same thing happens with the average scores obtained on question B (Table no. 3 second line (Pair 2 A_I - B_F)). As a result, it can be said that the lectures on sustainable development were effective, as they caused a significant change in the respondents' optics regarding the need for knowledge related to sustainability/sustainability in high school and the importance of sustainable development in providing the solution that best meets the demands of life current.

Therefore, the workshops - debate about sustainable development generated a significant change in the students' perspective regarding the scope of the term sustainability. Thus, some important actions, such as guaranteeing quality education and promoting lifelong learning opportunities for all, promoting the achievement of gender equality and reducing inequalities within and between countries, reached high average scores.

Using the oral-frontal observation, we found that the students were involved, eager to argue their ideas, to bring counterarguments to combat the opinion of their colleagues.

The meetings with the students of the 10th grade were extremely constructive and innovative, each of us managed to stay with more knowledge, they understood that the future of this planet depends on the rational use of all resources and the ability to empower the young generation, I being extremely pleased and satisfied with the result obtained, as well as what was confirmed to me: young people are eager to know, to discover the world and its alternatives, but for this, we adults need to show them and explain to them all sides of a problem.

5. Conclusions

Education for Sustainable Development must be introduced into the compulsory curriculum. It is obvious that everything we assumed at the beginning of this research is verified, and we are convinced that this discipline could change the students' perception of the complex issues specific to the 21st century.

However, we believe that there are certain limits or question marks in the research carried out.

The limits of the research result, for example, from the limited time available for interventions. The sincerity of students' answers can be a limit. Since the interpretation of the results was done by referring to the answers given by the students, sometimes they can be superficial or do not reflect what they really think, the answers can be given by referring to what the other colleagues answered. Also, for the most eloquent results, the research should have been extended, perhaps, to the level of several 10th grades.

Another limitation results from the impossibility of measuring the degree to which students will use knowledge about sustainability in their personal and professional lives.

The introduction of the discipline of Education for Sustainable Development also requires, it is true, competent teaching staff, prepared to convey to students the concepts related to sustainability, who have a very good command of the specialized concepts and who, in turn, have completed various training courses in this sense. The training of teachers is essential, because they must understand that sustainable development is not a simple goal, but a global, complex process with multiple consequences. This training should, first of all, be formal in order to contribute to the professional development of teachers. The didactic activity in the classroom must be interwoven with practical activities, in which students are actively involved in order to better understand the theoretical concepts and notions related to sustainable development.

The need to introduce the discipline of Education for Sustainable Development into the formal curriculum in Romania, the Human and Society curriculum area, is a priority if we want to convey to the young generations the idea of responsibility in the use of resources, to make them aware of the effects of their present actions, of the long-term implications of their actions, to know that sustainable development can have the effect of improving the standard of living, but without damaging the ecosystem of our planet.

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