

## SUSTAINABLE DEVELOPMENT FROM HIGH SCHOOL TEACHERS' PERSPECTIVE

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**Abstract.** *The goal of education for sustainable development, that is, the development of awareness and responsibility towards the environment, the adoption of values and principles such as justice, equality, peace, democracy, and encouraging students to change their personal lifestyle and adhere to the principles of sustainable development in their daily behavior cannot be achieved only through the education “about” sustainable development – there is a need for the education “for” sustainable development, whose main carriers are the teachers of the modern school. Given that the teachers are the role models, the source of information and knowledge, educators, that is, someone who is in direct contact with the students, i.e. present generations, whose attitudes and behavior should be shaped in accordance with the sustainable development, it is of great importance to explore their attitudes towards sustainable development and education for sustainable development. Accordingly, the research is focused on the sustainable development from the high school teachers' perspective, with the aim of finding out whether the teachers are familiar with the concept of sustainable development, whether their daily behavior is sustainable, how they perceive the education for sustainable development, the position of sustainable development within the educational system, and their personal competence for working in this area.*

**Key words:** *sustainable development, education, high school, teachers*

### 1. INTRODUCTION

The most commonly accepted definition of sustainable development dates from 1987 and it is a part of the report “Our Common Future” formulated by the World Commission on Environment and Development. This definition describes sustainable development as the development that meets the needs of the present without compromising the ability of future generations to meet their own needs (WCED, 1987). The definition is based upon three components that form the base of sustainable development: economy, society and

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environmental protection (Milutinović, 2012). The social dimension encompasses the development of people and social organizations whereby it is very important to achieve social cohesion, equity, justice and wellbeing. The environmental dimension refers to the development of natural ecosystems in such a manner that will maintain the carrying capacity of the Earth and respect the non-human world. The economic dimension is oriented towards the development of the economic infrastructure with the importance of the efficient management of natural and human resources (Wals, 2009). Accordingly, the sustainable development involves the creation of models that meet the socio-economic needs and interests of citizens in a qualitative way, while eliminating or significantly reducing the negative impacts on the environment (Official Gazette of the RS, No. 57/2008). Thus, the sustainable development becomes a global means for expressing the need to move away from the dominant models of development that lack the capacity to balance the needs of people and the planet (Wals, 2009).

Once when the concept of sustainable development was formed and developed, it became clear that the key for achieving sustainability lies in the education, thereby the development of the concept of the education that will support the sustainable development has started (Mrnjauš, 2008). The initial idea of the education for sustainable development is presented in the document Agenda 21 within the chapter 36 entitled "Promoting education, public awareness and training" (McKeown, 2002). Agenda 21 emerged from the 1992 UN Conference on Environment and Development (Rio de Janeiro) and presents a plan of actions in the field of sustainable development, clearly defining the role and the place of the educational system in achieving the sustainable development (Radojević et al., 2011). Chapter 36 consists of three sections: reorienting education towards sustainable development whereby emphasizing the development of the opportunities for addressing sustainable development issues, environmental and ethical awareness, values, attitudes, skills and behaviors aligned with the sustainable development and for the effective public participation in the decision-making processes; increasing public awareness about environmental and development problems, engaging in the process of finding their solutions and fostering the sense of personal responsibility towards the environment, as well as motivation and commitment to the sustainable development; promoting training, that is, the development of the vocational training programs that meet the needs of the environment and the development and providing the access to training opportunities for all, promoting the flexible and adaptable workforce prepared to cope with the growing environmental and development issues and emerging changes, strengthening the national capacities and integrating the environmental and development goals into all managerial levels (UN, 1992).

Under Agenda 21, the education for sustainable development is presented in a narrow sense – as a need for the environment and development to become an integral part of the curriculum. However, Agenda 21 also recommends that there is a need for broadening the focus of education for sustainable development, in order to include a social and economic dimension as well (Bell, 2016). Thus, education that deals with the environmental problems, the possibilities for its protection, conservation and improvement, is perceived and determined by a new theoretical understanding of the environmental protection within the concept of sustainable development, and is terminologically defined as education for sustainable development (Nikolić, 2003). Therefore, as stated by Didham & Ofei-Manu (2015), "education for sustainable development evolved from environmental education, and added to it an integrated sustainable development perspective with stronger focus on social and economic dimensions" (p. 101).

The world is facing many challenges, such as climate change, depletion of natural resources, natural disasters, spread of diseases, loss of biodiversity, human rights abuses, increasing rate of poverty etc. (Wals, 2009). The education for sustainable development promotes the integration of these and other issues into the curriculum, in order to empower students to understand and to respond to the changing world. In addition, the education for sustainable development is oriented towards the development of competencies such as critical and systemic thinking, collaborative decision-making and taking responsibility for present and future generations (Leicht et al., 2018b). This means that the education for sustainable development represents much more than a base of knowledge about the environment, economy and society. Besides gaining knowledge about global issues, the education for sustainable development is focused on developing learning skills, perspectives and values that guide and motivate people to seek for the sustainable ways of living and to participate in a democratic society (McKeown, 2002). According to Leicht et al. (2018b), the education for sustainable development is commonly understood as “education that encourages changes in knowledge, skills, values and attitudes to enable a more sustainable and just society for all” (p. 7).

The education for sustainable development should not be limited to a specific subject that addresses the content of sustainable development (Vidojević, 2011), but must be based on the following principles: (1) the education for sustainable development requires a global, interdisciplinary approach, as it encompasses economic, social and environmental issues; (2) the teachers at all levels of education should encourage students' critical thinking and the creation of their own vision of the future sustainable development that would serve as a basis for their present behavior; (3) the sustainable development must become an integral part of educational programs at all levels of education, as well as integral part of the education in natural environment and lifelong education; (4) the education for sustainable development is a lifelong education, including formal, informal and any other education; (5) the main goal of the education for sustainable development is to empower people to create positive environmental changes, which requires their commitment, engagement and activity (Radojević et al., 2011).

The key role of education (formal and informal) and learning in achieving sustainable development is also confirmed by the recommendation for adopting the Decade of Education for Sustainable Development (2005-2014), whose main vision is to create the world where everyone has the opportunity to benefit from education and learn the values, behaviors and lifestyles necessary for a sustainable future and positive social transformation (Wals, 2009). Moreover, the new incentives were given to the education for sustainable development thanks to the 2030 Agenda (Leicht et al., 2018a), and its goal to “ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (UN, 2015, p. 14).

In addition, as Svanström et al. (2008) indicate, it must not be forgotten the need to provide capacity building for the educators who have to be equipped with the knowledge about sustainability and education for sustainable development, because it is a prerequisite for integrating sustainable development into their courses with adequate teaching methodologies.

Nikolić (2017) writes that sustainable development-oriented education is “a future-oriented education, a force of the future that will transform the human society” (p. 63). Therefore, the conclusion is clear –education is a prerequisite for achieving the sustainable development, a precondition for a sustainable present and for a sustainable future.

## 2. METHODOLOGY

*The problem of the research.* Nowadays, people are facing many challenges of a global character – population growth, poverty, malnutrition, inequality, climate change etc., their way of living is described as unsustainable, and the planet they inhabit is damaged, polluted and unhealthy. This threatens not only present, but also future generations, therefore encouraging the reflection on different ways of life, that is, on sustainable development. Sustainable development is based on meeting the needs of present generations in a way that will not jeopardize the future generations' abilities to meet their own needs. In order to cope with the growing problems and change their attitudes, beliefs, values and lifestyles, people must acquire an adequate education: the education for sustainable development. If the education is perceived as an instrument for achieving the sustainable lifestyles, then the education for sustainable development has to start at a young age and to continue at all levels of education, even at all stages of life. Accordingly, the education systems around the world have adopted the principles of sustainable development in order to make the functioning of the schools and their members sustainable, as well as to incorporate sustainable development into the curriculum, and thus, to achieve the effective education for sustainable development. Starting from the previously stated, the problem of the research can be summarized in the following question: Is sustainable development an integral part of the high school education in Serbia, that is, are the principles of sustainable development incorporated in the way of living and working of high schools, in the curriculum, as well as in the behavior and education of the teachers as providers of the education for sustainable development?

*The goal and the tasks of the research.* The goal of the research is to find out whether the teachers are familiar with the concept of sustainable development, whether their everyday behavior is sustainable, how they perceive the education for sustainable development, the position of sustainable development within the educational system, and their personal competence for working in this area.

The research is based on the following tasks: (1) to determine whether teachers are familiar with the concept of sustainable development; (2) to determine whether teachers behave in accordance with the principles of sustainable development; (3) to examine teachers' attitudes towards the education for sustainable development; (4) to determine the position of sustainable development within the educational system from a teacher's perspective; (5) to examine teachers' attitudes towards their personal competence in the field of sustainable development.

*The hypotheses of the research.* In accordance with the research tasks, the following hypotheses were set: (1) it is assumed that teachers are not familiar with the concept of sustainable development; (2) it is assumed that teachers do not behave in accordance with the principles of sustainable development; (3) it is assumed that teachers do not see the education for sustainable development as a precondition for achieving sustainable development, and that their awareness of the role and the responsibility of the school in the field of education for sustainable development is not developed; (4) it is assumed that teachers perceive that the educational system does not pay sufficient attention to the sustainable development issues, and that these problems are not an integral part of the school practice; (5) it is assumed that teachers are not competent in the field of sustainable development.

*The methods, the techniques and the instruments of the research.* The research is based on the descriptive method and scaling technique. The instrument was specifically

designed for the purpose of the research and it consists of 42 items. The teachers' task was to select a number on the scale (from 1 to 5 where 1 means I completely disagree, and 5 means I completely agree) that suits their opinion the most regarding the given item. The instrument is divided into 5 sections that correspond to the research tasks.

*The population and the sample of the research.* The research was conceived as a pilot, preliminary study in order to form an initial picture of the teachers' attitudes towards sustainable development and the education for sustainable development, and to identify the possible flaws of the research instrument. The research is oriented towards the population of high school teachers, including the teachers from the grammar schools and secondary vocational schools. The research sample consists of 107 teachers from Niš.

*The processing of the research data.* The obtained data were processed in the Statistical Package for the Social Sciences (SPSS), using the descriptive statistics (frequencies and percentages), and the answers of the respondents were summarized from the five-point scale into three categories, namely: I disagree (I completely disagree plus I disagree), I am indecisive (I neither agree, nor disagree) and I agree (I agree plus I completely agree).

### 3. RESULTS AND DISCUSSION

#### 3.1. The teachers' familiarity with the concept of sustainable development

The teachers' attitudes towards the items referring to the first research task (to determine whether the teachers are familiar with the concept of sustainable development) are presented in Table 1.

The obtained results show that the teachers' attitudes towards the item "I am familiar with the concept of sustainable development" are divided between the categories: I do not agree (21.7%), I am indecisive (37.4%) and I agree (35.5%). Considering the fact that just over a third of the respondents showed an agreement with the mentioned item, it can be concluded that the teachers are uncertain about what the concept of sustainable development represents. Also, the question whether the teachers who claim that they are familiar with the concept of sustainable development really know what the issues included in and related to this concept are remains.

Given that the highest percentage of teachers (73.8%) said I do not agree with the item "I am familiar with the basic regulations of the documents Agenda 21 and the 2030 Agenda", it can be concluded that the content of these documents is unknown to the teachers, despite the fact that these documents pay special attention to the education for sustainable development providing the key guidelines and suggestions for practical activities in order to manage the education towards sustainable development.

The item "Sustainable development is the development that meets the needs of the present generations without compromising the ability of the future generations to meet their own needs" represents the universally accepted definition of sustainable development presented in 1987 within the Brundtland Commission Report (WCED, 1987). The obtained results show that just over a half of the respondents (54.3%) is familiar with the definition of sustainable development, while the remaining respondents are generally indecisive regarding this definition. Given that the definition of sustainable development is unknown to the teachers, the previously presented results (showing that only one third of the teachers is familiar with the concept of sustainable development) are understandable.

**Table 1** Teachers' perceptions on the concept of sustainable development

Items	I do not agree		I am indecisive		I agree		Missing N	Total N
	N	valid%	N	valid%	N	valid%		
I am familiar with the concept of sustainable development	29	27.1	40	37.4	38	35.5	/	107
I am familiar with the basic regulations of the documents Agenda 21 and the 2030 Agenda	79	73.8	15	14.0	13	12.1	/	
Sustainable development is the development that meets the needs of present generations without compromising the ability of future generations to meet their own needs	12	11.4	36	34.3	57	54.3	2	
The concept of sustainable development is based on the relation between economic development, environmental protection and social equality	8	7.5	19	17.9	79	74.5	1	
Sustainable development = Environmental protection	14	13.3	30	28.6	61	58.1	2	
Gender equality has nothing to do with sustainable development	33	30.8	26	24.3	48	44.9	/	
Poverty is one of the important issues of sustainable development	13	12.1	30	28.0	64	59.8	/	
One of the goals of sustainable development is to take urgent action to combat climate change and its impacts	8	7.5	26	24.3	73	68.2	/	
One of the goals of sustainable development is to ensure inclusive and equitable quality education and promote lifelong learning opportunities for all	24	22.6	38	35.8	44	41.5	1	

Although only a third of the teachers are familiar with the concept of sustainable development, their attitudes towards the item "The concept of sustainable development is based on the relation between economic development, environmental protection and social equality" show that they recognize that sustainable development includes three equally important dimensions: economic, social and environmental (74.5% of the respondents answered with I agree).

The teachers' attitudes towards the item "Sustainable development = Environmental protection" indicate that more than a half of the respondents (58.1%) equate sustainable development with environmental protection, which is not in line with the previously presented results showing that the teachers are aware that the three dimensions, i.e. three pillars of sustainability (economic, environmental and social) are equally represented within the concept of sustainable development and that sustainable development cannot be reduced to only one of them. However, these results are understandable, if we take into account the fact that sustainable development in a school context, that is, in the context of teaching, is formed by broadening the environmental education, i.e. the ecological education. In other words, as stated by Didham & Ofei-Manu (2015), the education for sustainable development

evolved from the environmental education, thereby extending it to a social and economic dimension.

The previously presented results indicate that most of the teachers recognize that sustainable development also demands a social equality alongside the economic and environmental dimension; therefore, it is expected that teachers answer with I do not agree when it comes to the item "Gender equality has nothing to do with sustainable development". However, the obtained results show that the teachers' attitudes are divided between the offered categories. Taking into account that 24.3% of teachers answered with I am indecisive, and 44.9% with I agree it becomes clear that most of the respondents are insecure, and even ignorant, when it comes to the components of sustainable development.

When it comes to the item "Poverty is one of the important issues of sustainable development", indecisive teachers (28.8%) and those who answered with I do not agree (12.1%) indicate that more than a third of the respondents does not recognize poverty as a sustainable development issue.

In addition to the previous two items that showed that the teachers do not recognize some of the social issues of the concept of sustainable development, their attitudes towards the claim "One of the goals of sustainable development is to take urgent action to combat climate change and its impacts" (68.2% of teachers answered with I agree) once again indicate that the teachers often associate sustainable development with environmental protection.

"To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" is one of the global sustainable development goals within the 2030 Agenda (UN, 2015, p. 14) and the only one of the 17 goals directly related to the education. However, as the teachers are not familiar with this document, it is understandable why their attitudes towards the mentioned item are divided (22.6% of teachers answered with I do not agree, 35.8% of teachers answered with I am indecisive and 41.5% of teachers answered with I agree).

By observing the previously presented results, it can be concluded that most of the teachers are not familiar with the documents Agenda 21 and the 2030 Agenda, that they do not recognize the issues that the concept of sustainable development includes, that they have divided opinions on the 2030 Agenda goal related to the education, as well as on the familiarity with the concept of sustainable development, therefore, the hypothesis "It is assumed that the teachers are not familiar with the concept of sustainable development" can be confirmed.

### **3.2. Sustainable behavior of the teachers**

The teachers' attitudes towards the items referring to the second research task (to determine whether the teachers behave in accordance with the principles of sustainable development) are presented in the Table 2.

Most of the teachers (72.6%) recognize their responsibility in the field of sustainable development which comes from the teaching profession itself, i.e. from the fact that a teacher represents a role model for students. However, the question whether the agreement with the item "As a teacher, I have the responsibility to behave in accordance with the principles of sustainable development" reflects the realistic attitude of the teachers or merely a declarative acceptance of the stated remains. In addition, one fifth of the teachers (20.8%) are indecisive when it comes to this item.

**Table 2** Teachers' perceptions on their own (sustainable) behavior

Items	I do not agree		I am indecisive		I agree		Missing N	Total N
	N	valid%	N	valid%	N	valid%		
As a teacher, I have the responsibility to behave in accordance with the principles of sustainable development	7	6.6	22	20.8	77	72.6	1	
Through my teaching, I can contribute to solving the problems of sustainable development	5	4.7	23	21.7	78	73.6	1	
I can influence students' awareness of sustainable development issues	5	4.7	19	17.9	82	77.4	1	
I encourage students' environmentally friendly behavior by my own example	2	1.9	16	15.1	88	83.0	1	107
I take the initiative in organizing activities aimed at raising students' awareness of sustainable development issues	26	24.3	45	42.1	36	33.6	/	
I am a member of an environmental movement	86	81.1	7	6.6	13	12.3	/	
I come to work on foot or by bike	59	56.2	11	10.5	35	33.3	2	
I show unsustainable behavior to students through personal and other examples	18	17.3	30	28.8	56	53.8	3	

When it comes to the item "Through my teaching, I can contribute to solving the problems of sustainable development", most of the teachers answered with *I agree* (73.6%). However, there is also one fifth of the teachers (21.7%) who are indecisive.

Most of the teachers also agree with the item "I can influence students' awareness of the sustainable development issues" (77.4%) which is followed by indecisive teachers just like in the previous cases (17.9%). These and previous data suggest that there are teachers who do not recognize the importance of their own behavior and the power of their professional role in encouraging students' sustainable behaviors. With a bit of caution, it can be said that the encouraging fact is that most of the teachers have positive attitudes and a certain amount of confidence in their own role.

When it comes to the teachers' practical behavior, 83% of the teachers said that they encourage students' environmentally friendly behavior by their own example. However, we have to be careful and ask ourselves whether such an attitude is merely declarative, that is, in some way an expected, desirable answer, or do they really take care of their own, and therefore of the students' environmental behavior.

The findings show that, despite stating that they encourage students' environmentally friendly behavior, the teachers remain passive when it comes to organizing activities to raise students' awareness of sustainable development issues. Only a third of the teachers said *I agree* (33.6%), and as many as 42.1% of the teachers are indecisive when it comes to the claim "I take the initiative in organizing activities aimed at raising students' awareness of the sustainable development issues". This may indicate that the teachers do have a desire to participate in such activities, but not a willingness to initiate them themselves.

Although the teachers may be dealing with environmental topics within their teaching and serve as an example of desirable environmentally friendly behavior for students, it is



quite clear that as citizens they do not participate in environmental movements. As many as 81.1% of the teachers said they were not involved in any environmental movements.

More than a half of the teachers do not go to work on foot or by bicycle (56.2%), while a third of the teachers say that they do (33.3%). Still, the question of what the reason for such behavior might be remains: could it be the proximity to their residence or a desire to do something positive for the environment?

More than a half of the teachers (53.8%) said that they show unsustainable behavior to students through personal and other examples. However, a considerable percentage of the teachers are indecisive when it comes to the stated (28.8%). Therefore, the question whether the teachers really are an example of environmentally desirable, sustainable behavior, and even whether those teachers who gave positive responses really understand what sustainable behavior is, or do those positive responses arise because of their profession, that is, because they feel an obligation and a responsibility to express such attitudes has to be posed once again.

The presented data indicate that the most of the teachers think that they have a responsibility to behave in a sustainable manner, that they can contribute to solving the problems of sustainable development through teaching, that they can influence the students' awareness of those problems, and that they encourage students' environmentally friendly behavior. However, this can all be declarative and therefore different from reality. Items that are oriented to the specific behavior of the teachers, such as organizing activities related to sustainable development, memberships in environmental movements, using a bicycle as a means of transportation or walking to their workplace, indicate that the behavior of the teachers is different than what they claim. Therefore, the hypothesis "It is assumed that the teachers do not behave in accordance with the principles of sustainable development" is partially confirmed.

### 3.3. Education for sustainable development

The teachers' attitudes towards the items referring to the third research task (to examine the teachers' attitudes towards the education for sustainable development) are presented in the Table 3.

Quality education and learning are a prerequisite for building a sustainable future (Mulà & Tilbury, 2009). Most of the teachers (74.5%) recognize that education is a prerequisite for sustainable development. However, one fifth of the teachers are indecisive (20.8%). A question that should be posed is whether the answer *I am indecisive* arises from the teachers' uncertainty about the ability of the education and schools to contribute to sustainable development or from their uncertainty about what sustainable development is, what it encompasses and, therefore, how it is associated with education.

Even though there are some teachers who chose the answer *I am indecisive* when it comes to the item "It is school's responsibility and obligation to work on students' education for sustainable development", most of the teachers answered with *I agree* (79.4%), which is encouraging.

The teachers think that education for sustainable development should start from early childhood (86% of the teachers answered with *I agree*).

**Table 3** Teachers' attitudes towards education for sustainable development

Items	I do not agree		I am indecisive		I agree		Missing	Total
	N	valid%	N	valid%	N	valid%	N	N
Education is a basic prerequisite for achieving sustainable development	5	4.7	22	20.8	79	74.5	/	
It is the school's responsibility and obligation to work on students' education for sustainable development	4	3.7	18	16.8	85	79.4	/	
Education for sustainable development should start from early childhood	3	2.8	12	11.2	92	86.0	/	
Education for sustainable development is a lifelong process	2	1.9	7	6.5	98	91.6	/	
It is too late to start education for sustainable development in high school	38	35.8	30	28.3	38	35.8	1	107
Sustainable development goals must be an integral part of the curricula at all levels of education	12	11.5	27	26.0	65	62.5	3	
Every teacher has an obligation to address sustainable development issues	13	12.1	26	24.3	68	63.6	/	
Students' awareness of sustainable development issues can be developed through education	7	6.6	18	17.0	81	76.4	1	
Education for sustainable development cannot be reduced to environmental education	5	4.8	42	40.4	57	54.8	3	

The teachers also recognize that education for sustainable development should be a lifelong education, that is, that there is a necessity for permanent education in this area (91.6% of the teachers agree with the item "Education for sustainable development is a lifelong process").

When it comes to the item "It is too late to start the education for sustainable development in high school", the teachers' answers are divided between the categories: *I disagree* (35.8%), *I am indecisive* (28.3%) and *I agree* (35.8%). The previous data show that, in the teachers' opinion, education for sustainable development should start from early childhood. However, sustainable development is related to all age groups, i. e., to all generations whose attitudes and behavior need to be changed. Therefore, it can be said that it is never too late to start with education for sustainable development, despite the fact that it is desirable to build appropriate habits and attitudes starting from childhood. Such or a similar understanding is probably the reason for divided opinions of the teachers.

More than a half of the respondents (62.5%) agree with the item "Sustainable development goals must be an integral part of the curricula at all levels of education". The question of whether the teachers' deliberately chose desirable answers, or they really recognize the importance of including sustainable development at all levels of education as a basis for changing the students' attitudes and behavior towards sustainable development must

be posed in this case as well. These data also show that there are teachers who are indecisive (26%) and who do not recognize the role of education in the sustainable development field or who are not familiar with the concept of sustainable development itself.

Similarly, more than a half of the respondents (63.3%) believe that every teacher has an obligation to address sustainable development issues, but such attitude might also be declarative. In addition, there are 24.3% of the teachers who are indecisive.

Given that most of the teachers recognize that education is a prerequisite for achieving sustainable development, it comes as no surprise that their attitudes towards the item "Students' awareness of the sustainable development issues can be developed through the education" are affirmative (76.4% of the teachers answered with *I agree*).

The teachers' attitudes towards the item "Education for sustainable development cannot be reduced to environmental education" are divided (54.8% of the teachers said *I agree*, 40.4% of the teachers are indecisive, and 4.8% of the teachers answered with *I do not agree*). This indicates that the teachers do not have a clear understanding of the concept of sustainable development, and that there are some teachers who equate sustainable development and environmental protection.

Most of the surveyed teachers believe that education is a prerequisite for achieving sustainable development, they think that education for sustainable development is a responsibility and an obligation of the schools and teachers themselves and that sustainable development goals must be an integral part of the curricula at all levels of education, they see the possibility to develop the students' awareness of sustainable development issues through education and they do not reduce the education for sustainable development to environmental education.

Therefore, the hypothesis "It is assumed that the teachers do not see the education for sustainable development as a precondition for achieving sustainable development, and that their awareness of the role and the responsibility of the school in the field of education for sustainable development is not developed" is rejected.

### 3.4. The position of sustainable development within the educational system

The teachers' attitudes towards the items referring to the fourth research task (to determine the position of sustainable development within the educational system from the teachers' perspective) are presented in the Table 4.

The teachers' attitudes towards the item "The sustainable development content is underrepresented in the curricula" are not aligned (21.5% of the teachers said *I do not agree*, 43.9% are indecisive and 34.6% said *I agree*). This may be due to the fact that the teachers do not have insight into other subjects' curricula, and therefore they are not familiar with the content of other subjects, or whether or how other teachers correlate that content with sustainable development issues. On the other hand, the perception that sustainable development content is sufficiently presented may be caused by the fact that the students are overburdened or, when it comes to the grammar school teachers, by the fact that the optional course *Education for sustainable development* which covers the sustainable development issues has been introduced.

The teachers' attitudes are also not aligned when it comes to the item "My colleagues haven't developed the awareness of the sustainable development issues", that is, their answers are divided between the categories: *I do not agree* (26.4%), *I am indecisive* (37.7%) and *I agree* (35.8%).

**Table 4** The position of sustainable development within the educational system from the teachers' perspective

Items	I do not agree		I am indecisive		I agree		Missing N	Total N
	N	valid%	N	valid%	N	valid%		
Sustainable development content is underrepresented in the curricula	23	21.5	47	43.9	37	34.6	/	107
My colleagues have not developed awareness of sustainable development issues	28	26.4	40	37.7	38	35.8	1	
The school is passive when it comes to education for sustainable development	27	25.2	48	44.9	32	29.9	/	
The school as a community acts in accordance with the principles of sustainable development	14	13.1	55	51.4	38	35.5	/	
The educational system is not flexible enough to meet the goals and tasks of education for sustainable development	15	14.0	60	56.1	32	29.9	/	
I introduce the elements of sustainable development into the content of the subject I teach	26	24.5	39	36.8	41	38.7	1	
Sustainable development content is only an additional load to the overcrowded curriculum	44	41.1	38	35.5	25	23.4	/	

Only a quarter of the surveyed teachers (25.2%) think that the school is not passive when it comes to the education for sustainable development. A significant percentage of the teachers (44.9%) are indecisive, which can indicate that they recognize that the school is taking some steps, i.e. activities in the field of education for sustainable development, but not sufficient.

Half of the respondents are indecisive when it comes to the item "The school as a community acts in accordance with the principles of sustainable development" (51.4%). Previously presented results showed that the teachers are not familiar with the concept of sustainable development. Therefore, it is unlikely that they are aware of the principles this concept encompasses. On the other hand, there are teachers who said that the school acts in accordance with the principles of sustainable development (35.5%), which is encouraging because it indicates that the school is not completely passive in this area.

More than one half of the teachers (56.1%) could not decide whether the educational system is flexible enough to meet the goals and tasks of the education for sustainable development. Even though the teachers are probably aware of the possibility to integrate the sustainable development content into different subjects, since this is an interdisciplinary issue, and of the existence of an optional course *Education for sustainable development* in the high schools, they have not seen it being applied in practice (beyond their own efforts, if any), which may explain their attitude.

The teachers' answers are also divided when it comes to the item "I introduce the elements of the sustainable development into the content of the subject I teach" which indicates that there are teachers who correlate the sustainable development content with

the content of their subject (38.7%), but there are also those who do not (24.5%). The fact that not all the subjects are suitable for correlating with the sustainable development content and that, therefore, the teachers' answers will depend on the subject they teach must be taken into account. However, the concept of sustainable development is very complex and it encompasses many different topics, such as peace, justice, poverty, equality, democracy etc. which increases the opportunities for integrating the sustainable development issues into different subjects.

The teachers show divided opinions in the case of the item "The sustainable development content is only an additional load to the overcrowded curriculum" (41.1% of the teachers answered with *I do not agree*, 35.5% of the teachers are indecisive, and 23.4% said *I agree*) as well. These results may be influenced by the type of school, i.e. the teachers coming from vocational secondary schools may find that the sustainable development content is insufficient and therefore necessary, while the teachers working in high schools, where a specific optional course on sustainable development has been introduced, may think that this is an additional workload for students and that it is better to address the sustainable development issues through different subjects or not to address them at all.

Given that the teachers' attitudes towards every item from the fourth task are divided between the offered categories – *I do not agree*, *I am indecisive* and *I agree*, as well as that the teachers' attitudes are not mainly affirmative, the hypothesis "It is assumed that the teachers perceive that the educational system does not pay sufficient attention to the sustainable development issues, and that these problems are not an integral part of the school practice" is confirmed.

### 3.5. The teachers' competence in the field of sustainable development

The teachers' attitudes towards the items referring to the fifth research task (to examine the teachers' attitudes towards their personal competence in the field of sustainable development) are presented in the Table 5.

It is encouraging that some of the surveyed teachers are working on their education in the field of sustainable development (25.5%). However, it is obvious that there are teachers who do not have a clear perception on the sustainable development issues and therefore, they are also indecisive when it comes to the item "I keep up with the literature and educate myself in the field of sustainable development" (31.1%).

Most of the surveyed teachers did not attend any type of training in the field of sustainable development (75.7%), and the percent of the teachers working on their education is small (16.8%). These data are very worrying, especially when it comes to grammar school teachers who have the possibility of teaching the elective course "Education for sustainable development", that is, biology, chemistry, physics and geography teachers (Official Gazette of the RS, No. 13/2018), so whether they are truly competent to deal with this complex issue if they are not educated in the field of sustainable development has to be questioned.

The teachers' answers are not compliant when it comes to the item "During my education, I was introduced to the sustainable development content" (30.8% of the teachers said *I do not agree*; 40.2% said *I am indecisive* and 29% said *I agree*) which can be influenced by their years of service, i.e. by the fact that the importance of education for sustainable development (Kagawa, 2007) and its further popularity were emphasized thanks to the UN Decade of Education for Sustainable Development (Lukman & Glavič,

2007) in the period from 2004 to 2015, and that, therefore, the sustainable development content was not a part of the older teachers' education. In addition, even when the teachers were introduced to the sustainable development content, it was probably reduced to the environmental dimension, so those teachers who are not completely familiar with the concept of sustainable development probably answered with *I am indecisive* or *I do not agree*.

**Table 5** Teachers' attitudes towards their personal competence in the field of sustainable development

Items	I do not agree		I am indecisive		I agree		Missing N	Total N
	N	valid%	N	valid%	N	valid%		
I keep up with the literature and educate myself in the field of sustainable development	46	43.4	33	31.1	27	25.5	1	
I attended a seminar/training on sustainable development	81	75.7	8	7.5	18	16.8	/	
During my education, I was introduced to sustainable development content	33	30.8	43	40.2	31	29.0	/	
I consider myself competent for delivering sustainable development content	40	37.7	36	34.0	30	28.3	1	
I consider myself didactically and methodically qualified for delivering sustainable development content	35	32.7	47	43.9	25	23.4	/	
I am ready for continuous professional development in the field of sustainable development	28	26.2	30	28.0	49	45.8	/	107
I am motivated to educate myself in the field of sustainable development because it is a prerequisite for the students' successful education for sustainable development	19	17.8	34	31.8	54	50.5	/	
The education for sustainable development has to be an integral part of teachers' education	15	14.4	34	32.7	55	52.9	3	
I do not include sustainable development content in the subject I teach, because dealing with this issue requires specific training	42	39.3	40	37.4	25	23.4	/	

The teachers' answers are also divided when it comes to the item "I consider myself competent for delivering the sustainable development content" (37.7% of the teachers said *I do not agree*, 34% said *I am indecisive*, and 28.3% said *I agree*). Such data is understandable considering the previous results showing that teachers are not familiar with the concept of sustainable development itself and that they are not working on their professional development in this area.

Since teachers are not working on their professional development in the field of sustainable development, it is unlikely that they are didactically and methodically qualified for delivering the sustainable development content. Their attitudes on this issue are divided (32.7% of the teachers agree, 43.9% are indecisive and 23.4% do not agree).

Although the highest percent of the surveyed teachers (45.8%) said that they are ready for continuous professional development in the field of sustainable development, the previously presented results indicate that in reality, they do not work on it. Therefore, once again we have to wonder whether they are truly ready to improve their competencies for sustainable development, because they perceive it as very important for the present and future generations or they are ready for improvement only because such an attitude is expected because of their teaching profession.

Half of the teachers (50.5%) are motivated to educate themselves in the field of sustainable development because they cannot successfully work on the students' education for sustainable development without an adequate education of their own, which is quite logical. However, there are still teachers who are indecisive (31.8%) and even those who disagree (17.8%) with the stated. This may be due to the ignorance of the issues and the importance of the students' education for sustainable development, or perhaps because the subject they teach cannot be closely related to sustainable development issues.

Just over a half of the teachers (52.9%) believe that the future teachers must be educated in the field of sustainable development. In this case, there is also one third of indecisive teachers (32.7%).

When it comes to the item "I do not include the sustainable development content in the subject I teach, because dealing with this issue requires a specific training" the teachers' answers are divided between the categories: *I do not agree* (39.3%), *I am indecisive* (37.4%) and *I agree* (23.4%). It is possible that the teachers do not include the sustainable development content in the subject they teach, not because of a lack of training, but perhaps because they feel that the subject they teach cannot be related to sustainable development issues. The incompliance of the teachers' attitudes here also indicates that their understanding of the concept of sustainable development is not clear.

The teachers' attitudes towards every item from the fifth task are distributed between the offered categories -- *I do not agree*, *I am indecisive* and *I agree*. Therefore, the hypothesis "It is assumed that the teachers are not competent in the field of sustainable development" is confirmed.

#### 4. CONCLUSIONS AND RECOMMENDATIONS

Education is globally recognized as a prerequisite for achieving sustainable development and the recommendations, guidelines and advice for the practical implementation of the education in this field are the result of many international conferences on sustainable development. Although education for sustainable development is of great importance both for present and the future generations, sustainable development is only rarely present in the educational system of Serbia. It is only indicated as something that is desirable and in most cases it ends there.

With an intention to investigate the position of sustainable development in high school education in Serbia from the teachers' perspective, a study was conducted in order to answer the question: *Are the principles of sustainable development incorporated in the*

*way of living and working of high schools, in the curriculum, as well as in the behavior and education of the teachers as providers of the education for sustainable development?*

The obtained results indicate that there are gaps in the teachers' knowledge when it comes to the concept of sustainable development. Most of the surveyed teachers are not familiar with this concept, nor with significant international documents in the field of sustainable development, and often they associate sustainable development only with the environmental protection, without recognizing other important issues, such as poverty and gender equality. The teachers confirmed that sustainable development is an important topic, and that schools and themselves have the responsibility to act in accordance with the sustainable development principles, to encourage students' environmentally friendly behavior, but that they are not active in this field, they do not organize activities aimed at raising students' awareness of the sustainable development issues and they are not members of any environmental movements. Also, the positive attitudes towards their responsibility for sustainable behavior do not have to correlate with their actual attitudes and behaviors, but may be expressed because of the expectation that a teacher should be a role model for students, even in this area.

The teachers recognized that the education is a basic prerequisite for achieving sustainable development, that schools have a responsibility to work in this field, the importance of the education for sustainable development from early childhood, that sustainable development goals must be an integral part of the curricula at all levels of education and that the education for sustainable development should become a lifelong process. Generally, it can be concluded that the teachers' attitudes towards education for sustainable development are positive, but when it comes to the position of sustainable development within the educational system, their attitudes are not compliant. Some of the teachers believe that sustainable development is underrepresented in the curriculum, others that there is a lot of sustainable development content, some teachers think that the school does not act in accordance with the sustainable development principles, that it is passive, and that the school system is not flexible enough to meet the goals and the tasks of the education for sustainable development, while other teachers disagree with these statements, or are indecisive.

When it comes to the teachers' competencies in the in the field of sustainable development, although there are teachers who are motivated to work on their professional development, the conclusion is clear – the teachers are not competent enough, they do not work on their education in the field of sustainable development, they do not attend trainings and seminars and they did not meet the sustainable development issues during their schooling (or they were only introduced to the environmental dimension).

The highlighted problems and dilemmas require change, first and foremost to work on the teachers' education in the field of sustainable development, so that they can transfer that education onto the students. Based on the findings of the research, the following recommendations can be made in order to improve the education for sustainable development:

- to make recommendations and suggestions for correlation of the content of different subjects (where possible) with the sustainable development issues, as the teachers are not aware of the scope of the issues covered by sustainable development;
- to integrate the sustainable development issues into the initial teachers' education, and to pay special attention to the development of didactic and methodic competencies of those teachers who directly face the sustainable development issues within their field of interest (biology, physics, chemistry, geography etc.), since



sustainable development requires innovative approaches, modern teaching methods and techniques because of its specificity;

- the professional training in the field of sustainable development should be mandatory for all teachers in order to become familiar with: (1) the concept of sustainable development itself; (2) their role in the process of education for sustainable development, that is to raise their awareness that they are the carriers of the education for sustainable development and that they have a great responsibility in this process; (3) the ways in which, if not through the teaching, they can contribute that their behavior, students' behavior and the overall functioning of the school become more sustainable;
- to introduce a specific subject concerning the sustainable development issues in those vocational schools which are not directly related to this issue or which do not have subjects dealing with sustainable development, since the knowledge in this field is necessary for all citizens of modern society.

These recommendations can serve as a starting point for expanding the education for sustainable development and for raising the quality of those activities that are already undertaken in this field in the Serbian system of education. The education for sustainable development is an imperative of the times we live in (and a precondition for living in the time to come), and teachers, as a direct link to young generations, are carriers of that education, and will not be able to successfully fulfill that role if they are not educated for sustainable development themselves.

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## **ODRŽIVI RAZVOJ IZ UGLA SREDNJOŠKOLSKIH NASTAVNIKA**

*Cilj obrazovanja za održivi razvoj, odnosno razvijanje svesti i odgovornosti prema sredini u kojoj žive, usvajanje vrednosti i načela, kao što su pravda, jednakost, mir, demokratija, te podsticanje učenika na promenu ličnog stila života i pridržavanje principa održivog razvoja u svakodnevnom ponašanju ne može se ostvariti samo kroz obrazovanje „o“ održivom razvoju - neophodno je obrazovanje „za“ održivi razvoj čiji su glavni nosioci nastavnici savremene škole. S obzirom na to da su nastavnici modeli ponašanja i uzori, izvori informacija i znanja, vaspitači, odnosno neko ko je u neposrednom dodiru sa učenicima, sa savremenim generacijama čije bi stavove i ponašanja trebalo oblikovati u skladu sa održivim razvojem, veoma je važno istražiti njihovu perspektivu, odnosno stavove u vezi sa održivim razvojem i obrazovanjem za održivi razvoj. U skladu sa time, istraživanje je fokusirano održivi razvoj iz ugla srednjoškolskih nastavnika, sa ciljem dolaženja do saznanja da li nastavnici poznaju koncept održivog razvoja, da li su njihova svakodnevna ponašanja održiva, kako percipiraju obrazovanje za održivi razvoj i poziciju održivog razvoja u školskom sistemu, te svoju ličnu osposobljenost i kompetentnost za rad u ovoj oblasti..*

**Ključne reči:** *održivi razvoj, obrazovanje, srednja škola, nastavnici.*