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## Sustainable development from the standpoint of future educators

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### Abstract

The problem Serbia is facing refers to the fact that a small number of local initiatives and activities in the field of environmental protection have been completely carried out and become functional. The research presented in the paper aims at providing an answer to the question: to what extent education and future preschool and primary school teachers can influence the increase of ecological awareness of young people, leading to the improvement in the field.

The paper presents the results of a research carried out at the Preschool Teacher Training College in Vrsac. Great attention has been paid to the following: have the students acquired ecological knowledge and awareness during their previous schooling and to what an extent; how much attention is paid by the current curricula to the field of environmental protections and what are the values identified by students as those important for their own and social prosperity and survival in general.

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### 1. Introduction

Great determinations of Serbia to become a member of the European Union and the attempts at reaching the aim at the beginning of 2012 have not given the expected results yet. The important fact is that a whole range of reforms have been introduced in political, economical and social life in the country. Two decades of transition have produced visible results in a number of fields, before all regarding legislative issues and the harmonization of regulations with the European, etc. National strategic plans and programs have been adopted, as well as the related laws, regulations and enactments, while international conventions and agreements have been ratified. These changes have influenced the life of the citizens of Serbia both at the level of a community as a whole and at the level of local communities. However, the current democratic ruling power has difficulties with parting from the *centralism* inherited from the 1990ies; as a consequence, the *lowering* of the reforms to local level and the harmonization of local regulations and practice with the central and European are missing, leading to the lack of full effects and results of the demanded reforms.

### 2. Ecological education

The system of ecological education and upbringing has an important role to play in building ecological culture of a modern man. The synthesis of knowledge, skills and habits within natural and social sciences is a precondition for forming of a comprehensive and complex ecological awareness of an individual. Conceived in such a way,

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knowledge acquisition on the environment, its characteristics, relations within it and attitudes to it, as well as on a place of a man within it, throughout individual's life is a cornerstone according to which an individual will permanently strive for environmental protection, promotion and improvement. Acquisition of long-lasting knowledge on basic ecological issues within contemporary society, the development of critical attitude towards the omnipresent degradation of the environment, emphasizing the necessity of rational exploitation of natural resources has to become a widespread and general component in educational system. "The basic principle of eco-education and upbringing is expressed in the demand for environmental protection education to be significantly more than informing on eco-facts" (Sehovic, Marjanovic, & Biocanin, 2008, p. 222). This means that the knowledge acquired by students should not remain at the level of being informed; it should rather be that the whole life in educational institutions is in accordance to environmental protection demands. When talking about environmental protection awareness, knowledge itself is not enough; we should deal with the development of beliefs and emotional-volitional components, initiating practical actions which are one of the most important aims of ecological education.

The importance of the role of educational-upbringing organizations at all levels of knowledge acquisition in the process of forming ecological way of thinking is obvious at the earliest age (preschool institutions) and continues to the level of higher education – faculty. Having in mind that the problems of environmental protection and need to overcome negative consequences of the disturbed ecological balance impose the demand for systematic knowledge, ecological education cannot be left to blind forces and a good will of the teacher. "The issue of organized teaching in the field of environmental protection has to be approached rather seriously and effectively, through the innovation of the existing curricula and introduction of regular ecological contents either as special courses or within other courses" (Sehovic, Marjanovic, & Biocanin, 2008, p. 222).

### 3. Research

Previous considerations imply that the motto *Think globally, act locally* in the field of environmental protection has not become an outlived idea; it rather seems that according to this demand new and more modern concepts of ecological activism have been developed. The problem we are facing is the fact that the attention to this component of education is paid only declaratively, with outcomes of the efforts not known to us. To some extent relying on the methodology implemented by the Green agenda in its activities, the research aims at finding out and objectively measuring the level of ecological awareness of students, future pre-school and primary school teachers, screening an interesting part of their value system.

An anonymous questionnaire was distributed to the students of the Preschool Teacher Training College in Vrsac attending the first (N=46), second (N=34) and third (N=43) year.

The fact that the last Laws on primary and secondary education were adopted in the beginning of 1990ies (new are expected during this year) can be considered an indicator showing that the generation of present students has been educated according to outdated grounds not harmonized with those in Europe. The curricula have been modified in accordance with contemporary educational demands in the last 20 years, but there were no essential reforms in the field. On the other hand, the implementation of the Law on higher education (adopted in 2005) and the accreditation of new curricula has taken place in Serbia for the last five years. According to these facts, it can be assumed that the present students have not been exposed to the adequate contents in accordance with the current state in the sphere of environmental protection. Even if this assumption turns out to be false, it is beyond dispute that the teaching was carried out by the teachers who have not met the issues of environmental protection explicitly during the former schooling of the subject, i.e. the present students.

A combined questionnaire has been used in the research. The base of the questionnaire refers to open questions in some cases preceded by a close type (YES/NO) question. In the section intended to establish natural, cultural and human values the students regard most important, the subjects were offered multiple-choice questions and the possibility to offer their own choice.

### 4. Results and analysis

Having in mind that at this point the research results are to be discussed, we will once again point out to the basic assumption that the present students have not been exposed to adequate contents in accordance with the current state in the sphere of environmental protection, due to the fact that there have not been relevant reforms within primary and secondary school education for almost 20 years; furthermore, the teaching in their former primary and secondary school was carried out by the teachers who did not deal with the issue of environmental protection during their own education.

Table 1. Natural values

Value	Answers in %
cultivated land	15
rivers, lakes...	19
mountains and hills	13
forests and parks	14
plain	5
animals	11
plants	11
unpolluted environment	12

Compared to rather balanced responses, the choice of *rivers and lakes...* is more expressed (19%), which could be explained according to the territory the subjects come from. Namely, since  $\frac{3}{4}$  of the subjects come from Vojvodina, mostly South Banat, we would point to the fact that this region does not have any significant water streams and the finding could be described as an aspiration for something we actually *do not have*. Similar explanation could be expected for the finding regarding *mountains and hills*; it seems that the small percentage (5%) of the subjects who value plain as a natural value in accordance with the previous explanation: plain is not so important to students since they *have it*; this also supports the previous statement on the finding regarding *rivers and lakes*. The important finding refers to the fact that 15% of the polled students values *cultivated land*. The finding that the majority of the subjects come from village households that mostly deal with agriculture in Vojvodina, points to the insight that students are aware of this existential fact.

Table 2: Cultural values

Value	Answers in %
institutions of culture (museums, theatres...)	23
educational institutions (schools, faculties...)	33
spiritual institutions (churches)	19
Sports fields	14
Cultural manifestations	11

One third of all the answers refers to *educational institutions* which is completely in accordance to the fact that the research subjects are future pre-school and primary school teachers. Having in mind that, as it has already been explained in the text above, it was possible to choose more than one answer, we will just refer to the finding that even 84 subjects chose *educational institutions* leading to a conclusion that there are 68% of students who are fully aware *why they are here*. The rest of the results we could consider expectable; thus they do not deserve special discussion.

Table 3 shows that *morality* and honesty, and even *tradition* are rather highly valued, while the variables *respect for multinational* and *ecological awareness* are unfortunately estimated rather poorly. It is not so interesting from the angle of this research, but other researchers could find astonishing this huge difference between the two, for the

author of the research somehow closely related values: *tradition* and *respect for multinational*. It is worth noticing that the value described as *general and professional education* is relatively lowly ranked; viewed individually, this value is supported by only 28 subjects, or less than one fourth.

Table 3: Human values

Value	Answers in %
morality	22
ecological awareness	5
sports activities	13
modesty	8
honesty	21
respect for multinational	4
tradition preservation	18
general and professional education	9

The subsequent questions referred to prior education, i.e. the presence of ecology or ecological contents in the teaching subjects in primary and secondary school. It is found that the students who used to attend the secondary schools of economic orientation had a subject called *Ecology* – 35% of the polled students, while in other schools there was no subject matter with such an explicit title. Out of the total number of subjects, 65% identifies *Biology* as a subject containing ecological contents, while less than 10% identifies subjects like *General Science*, *Chemistry*, *Geography*, and *World around us*, or in individual cases the professional subjects like *Bio-chemistry*, *Botany* and *Tourism*. Up to 20% of former primary and secondary school students do not recognize any subjects at least to a small extent dealing with the issue of environmental protection.

Establishing the attitude of the students towards ecology in general, activism and their opinion on the relation between their future profession and environmental protection, it can be preliminary stated that the students are aware of the importance of environmental protection, but they do not do anything in this regard and they are not able to explain why it is important to develop ecological awareness in young children and youth.

According to expectations, more than 95% of students offered a positive answer to the question *Do you think ecology is important for our present and future life?* However, asked if they are actively engaged in some ecological activity (either organized or individual) only 5% answer positively, while only 3% of the subjects were capable of explaining the activity: within the Red Cross activities; within the municipal environmental movement; separating/recycling garbage and not using plastic bags.

The last question in the questionnaire is: *Do you consider that your future profession (you are now being trained for) demands ecological education so that you could provide your future students with ecological knowledge?* Positive answer was given by 90% of the subjects. It is worth noticing that there is a 5% difference in comparison to the more general attitude towards ecology (*Do you think ecology is important for...?*). It is interesting that almost 10% of negative answers were given almost exclusively by the students of the 1<sup>st</sup> year. Dealing with the above finding, it can be assumed that the newly enrolled generation of students (slightly less than one third – 29%) do not have completely build attitude on their own role in the education and upbringing of future generations. At the same time, we consider that when the students of senior years are in question this attitude is more comprehensively formed, thus reflecting the function of knowledge transfer aiming at environmental protection. Another explanation would be in favour of the thesis given in the beginning of the analysis of the results, confirming our assumptions: inadequate teaching contents and incompetent teaching staff in former education of those who are nowadays students.

Conceiving the questionnaire, the idea was to ask our subjects to briefly explain their attitude within the final question. According to the offered responses, i.e. the repeated phrases they used in them, they were classified in three groups. Only one untypical and comprehensive answer was offered: *The whole world is endangered, therefore*

*we should increase the awareness on environmental protection from the earliest age and this is our profession – the profession of a true teacher.*

Table 4: Why is it necessary for your future profession to get ecological education?

Used phrase	Answers in %
education of children	26
environmental protection	22
ecologic awareness	4
no response	48

An all-embracing view on the responses referring to the subject of ecology gives the impression that the students studying at these two institutions are generally aware of its importance in modern society. However, it can also be concluded that they do not have a clear picture on the place and the role of a preschool teacher or a primary school teacher in the process; furthermore, they are not involved in concrete activities of environmental protection.

## 5. Conclusion

Having outlined the general situations and the position of ecology in education, we have found that future educators, preschool teachers and teachers can expectably crucially influence the increase of ecological awareness of young people, leading to the improvement in the field of environmental protection.

It has been found according to the research results that even though ecology is mostly not a constituent part of the curricula in the system of mandatory education, there is to certain degree continuity in acquisition of ecological contents in primary and secondary schools. The attitudes of the subjects point to the fact that environmental protection is only indirectly present in the syllabuses of higher education curricula in the institutions the research has been carried out and students recognize it as an element of some courses.

General attitudes of students towards ecology are in accordance with the expected, but they are not supported by appropriate activities. The responses of the subjects have not offered a picture showing clearly built attitude towards the place and the role of a preschool and primary school teacher in the process of forming of ecological awareness of younger generations. The impossibility to find their place in the process is most obvious in the case of the 1<sup>st</sup> year students, giving hope and opening up possibilities to overcome this shortcoming during subsequent years of their studies.

The lack of systematic approach to environmental protection present at the level of society and education is a problem we are facing every day and the solutions are offered sporadically and randomly. Therefore it is necessary for ecology to, before all, become a constituent and inevitable part of not only education, but also of the way of life of students and teachers.

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