



TECHNIUM
SOCIAL SCIENCES JOURNAL

Vol. 11, 2020

**A new decade
for social changes**

www.techniumscience.com

ISSN 2668-7798



9 772668 779000

The position of environmental protection in the value ranking of vocational education actors

Alexander Bilčík

DTI University, Dubnica nad Váhom, Slovakia
bilcik@dti.sk

Jana Bilčíková

Constantine the Philosopher University in Nitra, Nitra, Slovakia
jana.bilcikova@ukf.sk

Michal Hanák

DTI University, Dubnica nad Váhom, Slovakia
hanak@dti.sk

Abstract. The article points out the accompanying environmental consequences resulting from the development of industry, transport and increasing globalization. Subsequently, it emphasizes the necessary education of the population, education for sustainable development and raising environmental awareness. It characterizes the starting points in legislation and strategic documents of environmental policy in the field of environmental education and training in schools in the Slovak Republic. It clarifies the implementation of vocational education of students in primary and secondary schools with a focus on their environmental literacy and competencies. In it, the authors interpret the results of a survey conducted on a sample of 3070 respondents, in which they organized ten life values according to importance. They compare the statements of three groups of respondents - teachers, parents, and students. Subsequently, they analyse them and point out the possible causes of the identified state of the position of the value of environmental protection in vocational education in Slovak schools. In the end, they name important topics and assumptions leading to improved preparation of students for the future.

Keywords. vocational education, quality of education, environmental protection, values, school partners.

1. Introduction

The past decades have brought the development of industry and transport in many countries, but these have been reflected in the deteriorating quality of the environment. Changes in air quality, water, soil, species diversity have a significant impact on human life and health. The technical activity of people can cause environmental burdens through accidents during the production or transport process. Rehabilitation, reclamation of such environmental burdens requires the use of increased financial costs from public sources, so we consider it as important to prevent such a situation. All workers must be required to behave responsibly, concerning human health and safety and the protection of the environment. It is necessary to guide children

and young people to develop these competencies, increase environmental awareness and literacy, especially through vocational training in the school system.

2. Environmental awareness in society and basic terms

Environmental awareness in society needs to be raised through education and awareness-raising for sustainable development, formal and informal environmental education. Act no. 17/1992 Coll. Of the Slovak Republic about the environment recommends the implementation of environmental education and training, to lead students to think and act following the principle of sustainable development, to be aware of the responsibility for maintaining the quality of the environment and its components and respect for life in all its forms.

According to this Act, sustainable development of society means such development that preserves the possibility of current and future generations to satisfy their basic living needs without reducing the diversity of nature and preserves the natural functions of ecosystems (Act No. 17/1992 Coll. On the Environment, as amended).

According to Chrenšćová, Škvarková (2013), the topics of sustainable development lead to raise awareness of global environmental problems and global problems that affect each individual, to the development of his critical thinking and a deeper understanding of these areas and topics. They provide space for changing the attitudes of individuals, groups, communities, and they strengthen the awareness of their role in the world (Chrenšćová, Škvarková 2013).

We consider it appropriate to clarify the following basic terms of the chosen topic:

- a) **Environmental literacy** is the acquisition of knowledge and skills in the areas of information gathering, research, critical thinking, problem-solving and decision making. A literate citizen can use what has been learned for future study, work, leisure, everyday life, and lifelong learning. (Ministry of Environment of the Slovak Republic, 2015)
- b) **Environmental education and training** are an institutionalized way of transferring knowledge about the environment. It forms a mosaic of relations between a person, society, and nature. It leads students to a comprehensive understanding of the interrelationships between organisms and the relationship of a person to the environment. It is mainly about understanding the necessary transition to the sustainable development of a society. (Ministry of Environment of the Slovak Republic, 2015)
- c) **Environmental awareness** is an increase in knowledge and information about the current state of nature, ecological trends, developments, forms of thinking and traditions in the field of environmental care. (Ministry of Environment of the Slovak Republic, 2015)
- d) **Axiology** is the science of values. It considers human life as a priority. Value is defined as a specific property of all-natural and social effects in which their positive or negative significance for a person is manifested. (Boroš, 1996)
- e) **Competence** is a behaviour (activity, complex activities) that characterizes an excellent performance in a certain area of activity (Schoonover Associates, 2001 in Turek, 2004). Having a certain competence means that in a certain natural situation we can adequately orient ourselves, adequately react and subsequently activate a suitable activity, take a beneficial attitude (Hučinová et al., 2007). According to Turek (2004), a person who has the knowledge, skills, abilities, motivation to do what is required in the relevant area is considered competent in a certain area. This term applies not only to individuals but also to social groups or institutions. Competence can be understood as the penetration of acquired knowledge, acquired abilities, skills, forming attitudes, value orientation,

motives for activity. The interrelationships of these aspects are closely interlinked and have a significant impact on:

- f) **Ability** as a psychic trait of a personality is a condition for the successful performance of a complex activity (ability to think abstractly) and its extent depends on innate positions and acquired preconditions (e.g. learning) for the performance of a certain activity. (Turek, 2004).
- g) **Skill** is a specialized ability to perform a specific activity, to solve a specific problem (e.g. to take notes while reading) (Turek, 2004).

Within the European Union, Slovakia respects 17 objects of sustainable development and 169 related partial objects of the new universal Agenda 2030 (Statistical Office of the Slovak Republic, 2016). One of its objects is to ensure, by 2030, that all learners acquire the knowledge and skills needed to promote sustainable development.

The strategy of the environmental policy of the Slovak Republic until 2030 states that environmental education and training (EET) in Slovakia significantly lags behind the needs of today's society. Despite the wide possibilities of implementing EET, the environmental awareness of citizens in Slovakia is insufficient and does not lead to a change in behaviour and setting values in terms of sustainable development. (Ministry of Environment of the Slovak Republic, 2019).

3 Vocational education in the school system

The school system in the Slovak Republic is implemented based on a two-level model of education. The first level is the binding **State Education Program** (SEP). It is a starting point for the preparation of **school education programs** (SchEP), which represent the second level of the education model. This gives each school the opportunity, through the use of optional (available) hours, to reflect in its school curriculum specific regional or local conditions and requirements of students or parents and supplemented the framework curriculum with them. School subjects with related issues are included in the educational areas, which should ensure better continuity and interconnection of content and cooperation.

Each subject has a set **educational standard**, which consists of the characteristics of the subject and basic learning objectives. These are concretized in **the performance standard**, a system of performances, which are expressed by specified objects - learning requirements. The set basic requirements can be further specified, concretized, and developed by teachers in the form of other close learning objects, learning tasks, questions, or test items.

A defined content standard is assigned to the defined performances, in which concepts are emphasized as a key element of the internal structure of learning content. The curriculum is structured in it according to individual thematic units. It forms the basis of defined learning content (SEP). The breakdown of vocational education is shown in Table 1.

VOCATIONAL TRAINING	Educational area	School subject	Grade
Primary education	A person and the world of work	Work teaching	3. – 4.
Lower secondary education	A person and the world of work	Technique	5. – 9.
Upper secondary education - vocational training	27 fields of study	Professional subjects according to the focus of the field	Two-year to five-year educational programs of the relevant field of education.

Table1. The segmentation of vocational education

Teaching at the primary level of education should be focused on a wide range of work activities and technologies based on creative teamwork. Through technical education, students are guided to acquire basic user skills in various areas of human activity. The **subject of work teaching** is focused on the development of practical work skills and complements the whole basic education with an important component necessary for the application of a person in later life and in society. (The National Institute for education in the Slovak Republic, State educational program, 2014).

In the subject **Technique**, students are guided to acquire psychomotor skills and knowledge from various areas of real-life and the world of work. The content is focused, among other things, on building students' relationship to technique, its safe use and safe work with technique (The National Institute for education in the Slovak Republic, State education).

At secondary vocational schools, students are trained in at least two-year and at most five-year educational programs in the relevant field of education. At present, there are 27 study fields with more than 80 study programs on offer in Slovakia at secondary vocational schools. The secondary vocational school prepares students for practice - especially for the performance of professional activities, especially technical-economic, economic, pedagogical, medical, social-legal, administrative, artistic, and cultural. (State Vocational Education Institute, 2016)

Vocational education of secondary school students develops their knowledge, skills, habits, and other abilities acquired in lower secondary education. The result of this education is vocational education, which is a part of the professional qualification of graduates of secondary vocational school.

The National Institute for education in the Slovak Republic (2017) states that the objectives of the subjects should be supplemented by the objectives of cross-cutting themes, which are a compulsory part of school education and favorably influence the process of formation and development of functional competencies of students (The National Institute for Education in the Slovak Republic, 2017). The cross-cutting theme that concerns the researched issue is Environmental Education. This enables students to acquire knowledge, skills, attitudes, and habits to protect and improve the environment important for sustainable life on Earth. It leads students to a comprehensive understanding of the interrelationships of a person, organisms, and the environment, where ecological, economic, and social aspects are interconnected. (The National Institute for education in the Slovak Republic, 2017).

The Ministry of Education of the Slovak Republic in the Pedagogical-organizational instructions for the school year 2019/2020 in the section Global education, environmental education and training for sustainable development recommends of schools, among other things:

- apply a global context and a global dimension to the content of SchEP education,
- to raise the awareness of children and students and to make them more aware of the 2030 Agenda for Sustainable Development, endorsed at the UN, and its 17 goals in relation to addressing current issues and its implementation at national and international level,
- to develop educational and training activities for children and students with an emphasis on awareness of the global interconnectedness of events, developments, and problems at the local, regional, national, and international levels,
- to raise children's and students' awareness of global issues, to develop their critical awareness of social, environmental, economic, and political processes in the world, including through cooperation with non-profit organizations active in the field of global education,

- to develop environmental education and training as a part of the development of the personality of children and students, aimed in particular at leading to conscious resource consumption, awareness of separation, recovery and disposal of waste in accordance with legislation, creating good attitudes and behavior of children and students towards the environment, to prevent pollution and damage to the environment, to address the various problems of nature and landscape protection and climate change (Ministry of Education, science, research and sport of the Slovak Republic, 2019).

The above-mentioned environmental challenges and the described system of vocational education led us to the following survey.

4 Objective, implementation, and results of the survey

The goal of the survey was chosen as follows: To determine the position of environmental protection in the value ranking of vocational education actors.

The survey was carried out within the KEGA project and there were used questionnaires in printed form focused on the following 10 life values:

- willingness,
- friendship,
- tolerance,
- strenuousness,
- environmental protection,
- teacher-parent cooperation,
- teacher-student cooperation,
- freedom and responsibility,
- recognition of individual differences between students,
- learning by activities. (Bilčík, 2017)

According to their importance, life values were organized by 1018 teachers, 1135 students, 917 legal representatives of students (hereinafter parents) of secondary vocational schools. Then we compared their responses with the emphasis on the importance of environmental protection. The obtained order of life values of individual groups of respondents is shown in Figures 1, 2, 3.

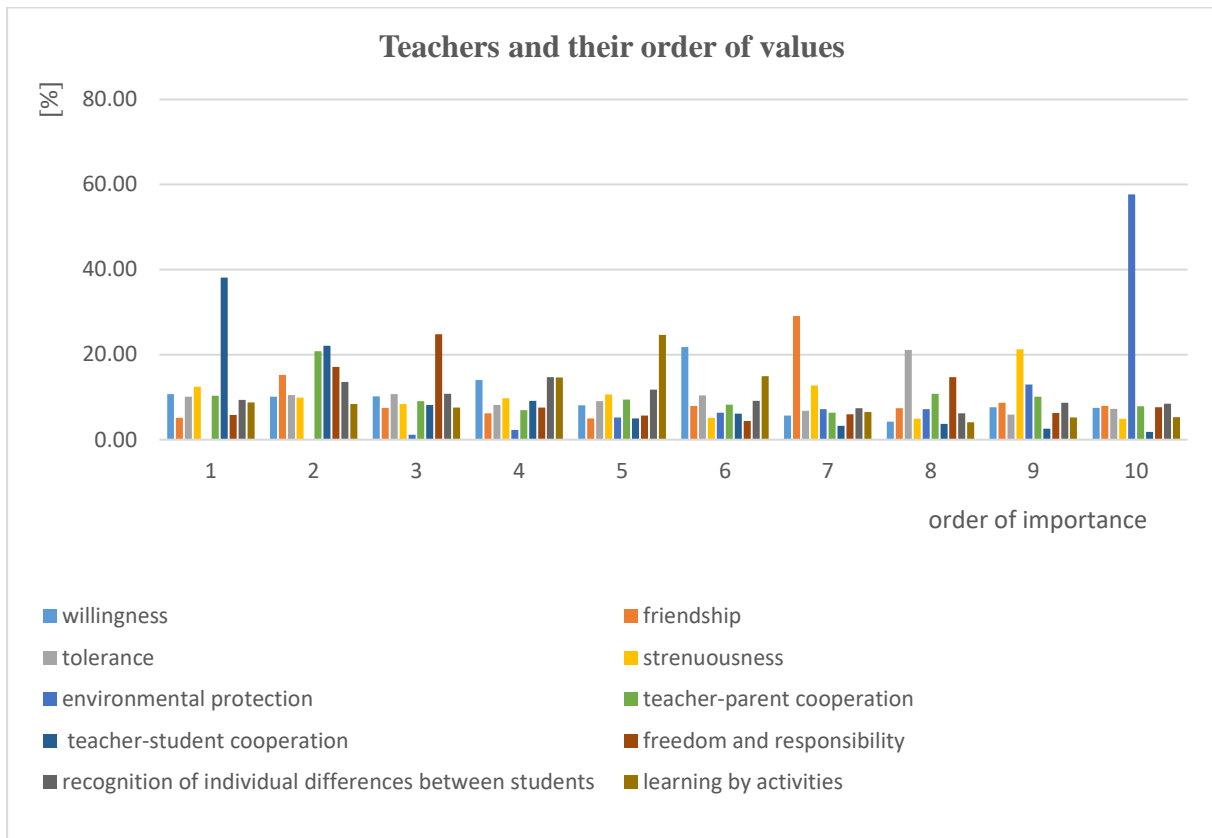


Figure 1: Teachers and their order of life values

As many as 38.11% of teachers stated teacher-student cooperation as the most important in the list of offered life values, this value was stated by another 22.10% as the second most important, followed by teacher-parent cooperation for 20.83% of teachers. Most of them, up to 57.7% of teachers ranked the protection of the environment in the last place in the order of importance in the ranking of selected values, while not a single teacher mentioned it in the first or second place.

As many as 34.35% of parents stated that the most important in the ranking of offered life values, similarly to teachers, the cooperation of teachers-students, the second most important - 22.57% of respondents stated cooperation of teacher-parent. The third in line for 21.81% of parents was willingness. Fifth environmental protection was significant for 32.93% of parents.

32.25% of students, consider friendship as the most important value in life, for 16.21% of them it is teacher-student cooperation. The second most important for 18.15% and the third most important for 17.18% of them is tolerance. Environmental protection is mentioned last by 33.66% of students, 18.59% of students are mentioned as last by teacher-parent cooperation.

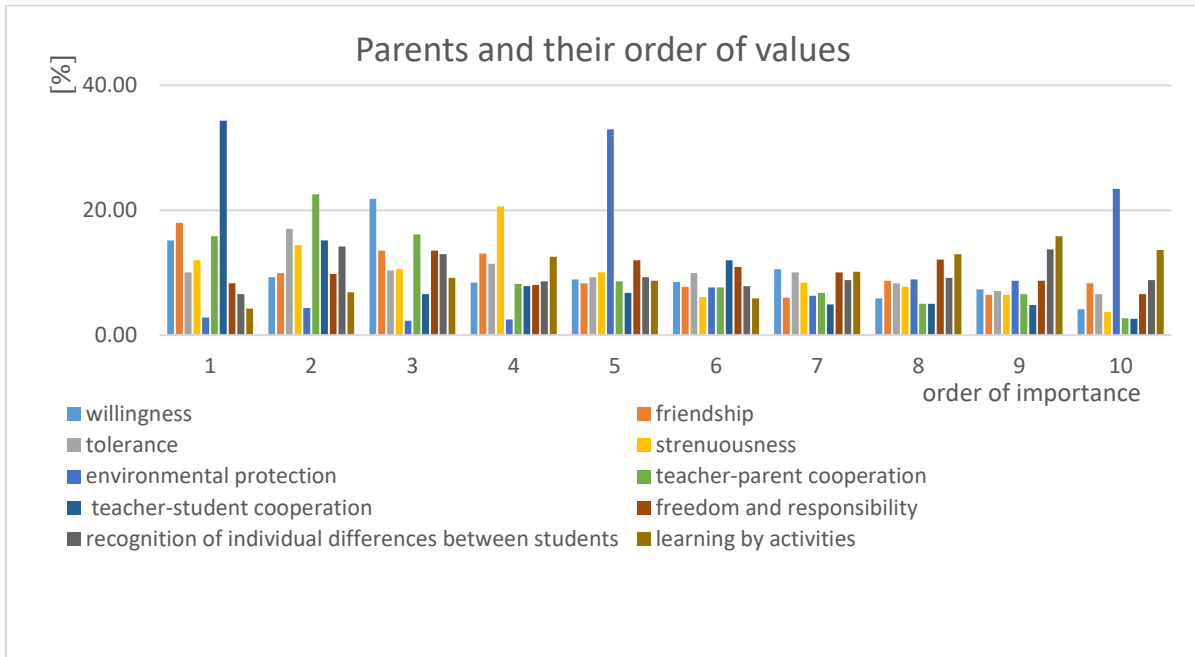


Figure 2: Students legal representatives/parents of students and their order of life values

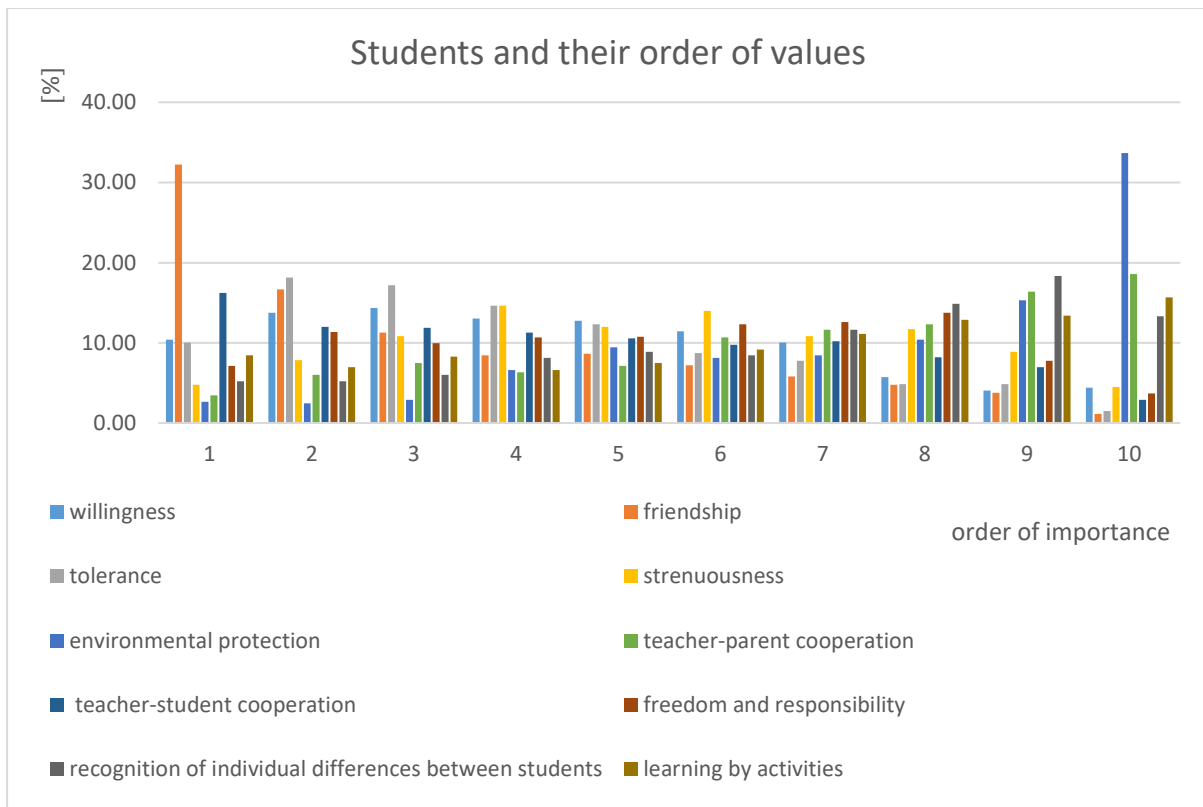


Figure 3: Students and their order of life values

A graphical comparison of the expressions of the three groups of respondents in terms of the importance of the value of **environmental protection** is shown in Figure 4.

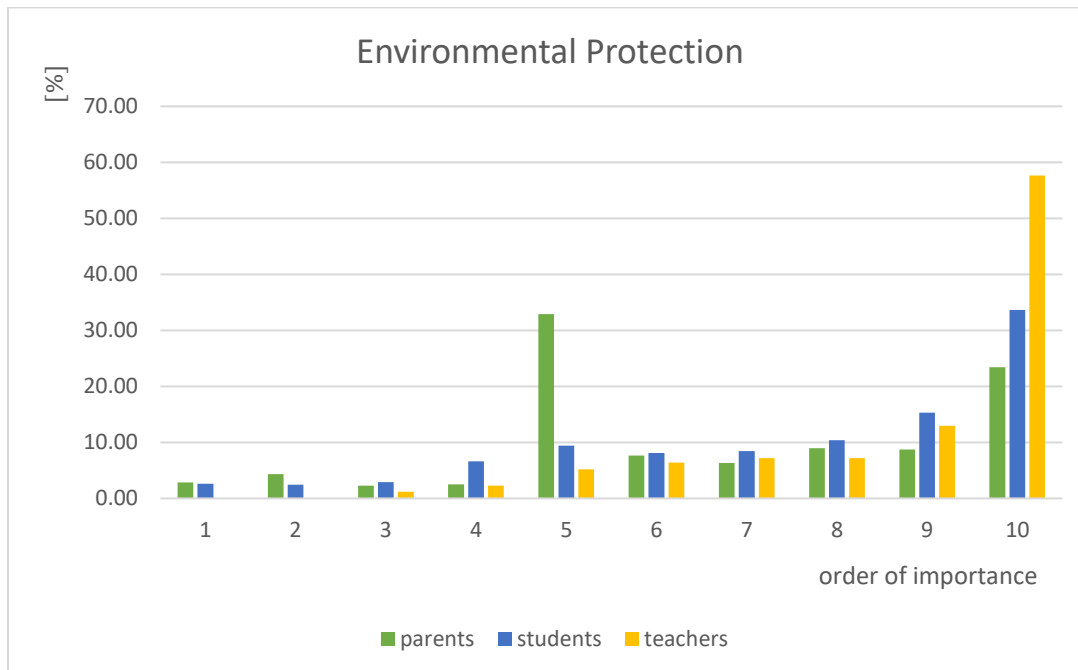


Figure 4: Comparison of respondents' statements of the importance of environmental protection

Students' parents place the greatest emphasis on the value of environmental protection. 32.93% of parents ranked environmental protection in fifth place in the order of importance. What is striking is the difference in how the values of other survey respondents differ from these views. Despite the anchoring of education for sustainable development and nature protection mentioned in Part 1 in legislation and pedagogical documents, teachers and students mentioned this value in the largest number in the last place. Among teachers, it was 57.66%, for students 33.66%. In the teachers' answers, only 1.18% of teachers stated the observed value as the third most important.

From the above comparison of the statements of teachers, parents, students, it can be seen that for teachers and students, environmental protection is not one of their priority values, on the contrary. In the results of students, it is possible to look for the causes in the weakened pattern of their teachers. Because of the placement of the value of environmental protection from the first place in the ranking (stated by 2.64% of students), it is possible to deduce a positive impact from parents and other social environments.

5 Conclusion

Today, we are increasingly aware of the importance of responsible behavior towards the environment. Many environmental problems, accidents, burdens are closely related to people's work activities, inconsistent compliance with regulations on safety and health at work and insufficient environmental awareness. We consider it important that young generations are already aware of the context of environmental protection and occupational safety, as a result of which they have behaved responsibly in their productive lives in situations related to this topic. The Slovak Republic has an education following the principles of sustainability enshrined in the legislation in the Environmental Act, in AGENDA 2030, in the Environmental Strategy 2030, they are also recommended by the Ministry of Education in the Pedagogical and Organizational Guidelines. Within the State Educational Program, they are included in the cross-sectional topic of Environmental Education, which can be addressed in school

educational programs as a separate subject or through projects, seminars, teaching blocks, courses or included in other subjects.

We think that if environmental education is not added as a separate subject and teachers of vocational subjects do not see the topics of sustainable development reflected in the educational standard of the subject, is questionable how many of them and to what extent in addition to much other work or personal responsibilities, devote additional energy and time to preparing for lessons, incorporating the principles of sustainability. The knowledge, skills and attitudes of people needed for industrialization in the past are different from those needed by future generations for nature conservation, so it is important to pay much more attention to educating students about the environmental impact of human activities and following the principles sustainable development.

Also based on the results of the survey of three groups, a total of 3070 respondents, the weak information and motivation of teachers to the subject matter was confirmed, despite the expectations of the students' parents.

We consider current topics on the availability of safe drinking water, its efficient use and sustainable abstraction, the use of clean and environmentally friendly technologies, sustainable transport systems, energy efficiency, climate change and its impacts, marine pollution, especially in connection with land-based activities, degradation soil and the natural environment, sustainable forest management, but also about the sharing of resources, technologies and cooperation for sustainable development, which, however, need to be communicated to teachers. Only then can be expected from them to give greater importance to the environment and its protection, to lead by example in education and to be able to better prepare children and young people for sustainable development on our planet.

References

- [1] A. BILČÍK: Evaluation of educational services by pupils and their suggestions for improvement. In: Berková, K., Pasiar, L. (editors). SCHOLA NOVA, QUO VADIS? Reviewed Papers of the 2nd International Scientific Conference. Prague : Extrasystem Prague, 2017. pp. 23-29. ISBN 978-80-87570-38-8. (2017)
- [2] J. BOROŠ: On the issue of adolescents' values. Pedagogical review., 48, n. 5-6, pp. 257 (1996).
- [3] L. HUČÍNOVÁ: Klíčové kompetence. Dostupná: <http://ucitelskelisty.ceskaskola.cz/Ucitelskelisty/Ar.asp?ARI=102552&CAI=2147> (2006)
- [4] V. CHRENŠČOVÁ, J. ŠKVARKOVÁ: Evaluation of the application of the idea of sustainable development in the educational process at primary schools in the city of Banská Štiavnica. *Envigogika*, 8(1). (2013). doi:DOI: <http://dx.doi.org/10.14712/18023061.291>
- [5] Ministry of Education, science, research and sport of the Slovak Republic. (2019). PEDAGOGICAL-ORGANIZATIONAL INSTRUCTIONS for the school year 2019/2020. Bratislava. Cit. 28. 7. 2020. Available on the Internet: <https://www.minedu.sk/data/att/14770.pdf>
- [6] Ministry of Environment of the Slovak Republic (2015). Departmental concept of environmental education, training and enlightenment until 2025. Ministry of Environment of the Slovak Republic. Bratislava. Cit. 31. 7. 2020. Available on the Internet: http://www.shmu.sk/File/Rezortna_koncepcia_EVVaO.pdf
- [7] Ministry of Environment of the Slovak Republic. (2019). Zelenšie Slovakia 2030. Ministry of Environment of the Slovak Republic. Bratislava. Cit. 28. 7. 2020. Available on the Internet:

- https://www.minzp.sk/files/iep/03_vlastny_material_envirostrategia2030_def.pdf
- [8] The National Institute for education in the Slovak Republic. (2014a). State educational program. Available on the Internet: https://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/pracovne-vyucovanie_pv_2014.pdf
- [9] The National Institute for education in the Slovak Republic. (2014b). State educational program Technology - lower secondary education. Cit. 28. 7. 2020. Available on the Internet: http://www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/technika_nsv_2014.pdf
- [10] The National Institute for education in the Slovak Republic. (2015). State educational program Cit. 29. 7. 2020. Available on the Internet: www.statpedu.sk/files/articles/dokumenty/inovovany-statny-vzdelavaci-program/svp_nsv_6_2_2015.pdf
- [11] The National Institute for education in the Slovak Republic. (2017). Methodological guidelines for the introduction of a cross - cutting theme in i SchEP. Bratislava. Cit. 28. 7. 2020. Available on the Internet: http://www.statpedu.sk/files/sk/metodicky-portal/metodicke-podnety/env_metodicke_usmernenie.pdf
- [12] State Vocational Education Institute. (2016) Internet: <https://siov.sk/vzdelavanie/odborne-vzdelavanie-a-priprava/>
- [13] Statistical office of the Slovak Republic. (2016). The Slovak Republic and the objects of sustainable development AGENDA 2030. Cit. 29. 7. 2020. Available on the Internet: <https://agenda2030.statistics.sk/Agenda2030/>
- [14] TUREK, I. (2004). Innovations in didactics. Methodical and pedagogical centre in Bratislava. ISBN 80-8052-188-3 Act no. 17/1992 Coll. On the environment, as amended. (date unknown). Cit. 28. 7. 2020. Available on the Internet: <https://www.zakonypreludi.sk/zz/1992-17>