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THE EDUCATIONAL POTENTIAL OF PROTECTED AREAS IN GEOGRAPHY TEACHING: PERCEPTIONS OF STUDENTS AND TEACHERS IN NORTH MACEDONIA

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ABSTRACT

Protected areas are natural units of exceptional ecological, scientific and educational value. They can be included in geography teaching to support a better understanding of natural processes, ecosystems and sustainable development. However, their inclusion in geography curricula in North Macedonia remains limited and unsystematic. The aim of this paper is to determine the level of awareness, the experiences and the attitudes of students, as well as the perceptions of geography teachers, regarding the representation and educational potential of protected areas in geography teaching in North Macedonia. The research was carried out using the survey method, the method of analysis and the method of synthesis. The data are based on a survey conducted among students and geography teachers in primary and secondary education. The results indicate a high level of interest among students and geography teachers in a more systematic integration of these contents. The need for fieldwork and project assignments, stronger institutional support, improved access to relevant educational materials and continuous professional training of teaching staff is particularly emphasised. The analysis concludes that the representation of content on protected areas will contribute to students' education and environmental awareness.

Keywords: protected areas, educational process, geography, students, teachers

INTRODUCTION

Values related to nature conservation develop from an early age, so education plays an essential role in forming environmentally aware and responsible

generations. Education for nature protection teaches students to be responsible towards nature and to live in balance with it. The school, as an educational institution, provides significant opportunities for the upbringing and education of students towards the protection and conservation of nature. To prevent the destruction of nature, it is necessary to act both educationally and practically (Dimitrovska 2008). Protected areas are one of the most important mechanisms for the long-term conservation of biological and landscape diversity. According to the IUCN, a protected area is "a clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley 2008). In the Republic of North Macedonia, the categories of protected areas and the protection regimes are regulated by the Law on Nature Protection (Official Gazette of the Republic of Macedonia 2004). In addition to their ecological value, protected areas also have an educational function. They are a suitable place for studying natural processes, and many of them develop educational programmes in cooperation with schools, thus giving students direct contact with nature (Stolton et al. 2015). Protected area managers and schools can develop joint programmes, including teacher training (Savić et al. 2019), and experiences with children in protected areas show that emotional attachment to place fosters empathy and engagement in nature conservation (von Lachmann et al. 2021). Geography is the subject in which this function can be realised most naturally. The International Charter on Geographical Education emphasises the role of geography in understanding the human–environment relationship and in education for sustainable development (IGU-CGE 2016), while the goals of education for sustainable development require learning that links knowledge, attitudes and action (UNESCO 2017). A comparison of geography curricula shows that their contribution to sustainability literacy depends on the extent to which the content is linked to skills and practical application (Miao et al. 2022). One of the best ways for students to get to know and experience nature, and to understand its importance, is through direct contact with it. Fieldwork should therefore become an integral part of the educational process.

Fieldwork is an integral part of the teaching process in geography. Teaching carried out outside the classroom and the school, in which students in an organised way carry out various observations, measurements, research, drawing, photographing, recording, and the collection and systematisation of diverse materials and data in order to become acquainted with geographical space more thoroughly and objectively, is called fieldwork or the field method (Dimitrov, Markoski 2011). A review of 150 studies on outdoor learning shows that fieldwork, when well conceived, planned and followed up with classroom activities, enables students to develop knowledge and skills that complement classroom teaching, but also that its use is limited by concerns about safety, teachers' lack of confidence, shortages of time, resources and support, and curriculum requirements (Rickinson et al. 2004). Project-

based teaching, which focuses on critical thinking, collaboration and creativity (Scott 2015), is a second approach through which the topic can be addressed actively, and its effects on functional geographical knowledge have been examined in both Serbia and North Macedonia (Đorđević et al. 2019; Đorđević et al. 2024). In the Republic of North Macedonia, there is still a lack of empirical research on how protected areas are included in geography teaching and how students and teachers perceive this topic. The aim of this paper is to determine the knowledge, experiences and attitudes of students, as well as the attitudes of geography teachers, regarding the inclusion of protected areas in teaching. The research focuses on four questions: (1) how much and what students know about protected areas and from which sources they obtain information; (2) which teaching activities are used and how widely fieldwork is applied; (3) whether students' attitudes differ according to level of education and participation in fieldwork; and (4) how teachers assess the representation of the topic in the curricula, the teaching materials and the working conditions.

RESEARCH METHODS

The research is quantitative, conducted with two anonymous questionnaires (one for students and one for teachers), and complemented by a content analysis of geography and natural science curricula and textbooks. The student questionnaire contains 18 closed-ended questions grouped into four parts: basic knowledge of protected areas, their study in geography lessons, sources and teaching materials, and activities used. The teacher questionnaire contains 12 questions in three parts: representation of the topic in teaching, availability of teaching materials, and importance of the topic in the educational process. For some questions, multiple answers could be selected.

The research included students in grades VIII and IX of primary education and in years I and II of secondary education, where geography is taught. Of a total of 74,167 students, 1%, i.e. 745 students, were surveyed (Table 1). The survey also covered geography teachers: of approximately 473 teachers, 26.2%, i.e. 124 teachers, were surveyed (Table 2). The survey was conducted from 1 to 30 November 2024 via social media.

Table 1. Number of students in grades VIII and IX and years I and II in the 2024/2025 school year

Primary education 2024/2025		**Secondary education 2024/2025**	
VIII	IX	I	II
19087	19907	17984	17189
total: 38,994		**total**: 35,173	
Total: 74,167			
Surveyed students – 745		**1%**	

Source: State Statistical Office of the Republic of North Macedonia

Table 2. Number of geography teachers

School	Geography teachers
Primary school	364
Secondary school	109
Total	**473**
Surveyed teachers – 124	**26.2%**

Source: https://gocemitevski.github.io/sredni-ucilista-mk/

The data were processed using descriptive statistics (frequencies and percentages), with a focus on the awareness and attitudes of students and geography teachers and on the representation of the topic of protected areas in the curricula. Using the method of synthesis, conclusions and recommendations were formulated for improving geography teaching, with the aim of transferring knowledge about protected areas more effectively and involving students more actively in the teaching process.

RESULTS

Protected areas in the curricula

The analysis of the curricula and textbooks shows that the topic is present in several grades and years, but to a small extent and mainly through national parks (Table 3). The content is mainly informative, and the curricula do not provide for specific activities related to protected areas (fieldwork or project work), so their implementation depends on the teacher's initiative.

Table 3. Representation of the topic of protected areas in the curricula

Grade / year	Subject	Context in which the topic is covered
Grade VI	Natural sciences	Environmental protection
Grades VII and VIII	Geography	Protection of flora and fauna; national parks, nature reserves and natural monuments
Years II and III, gymnasium	Geography	National parks; biodiversity and sustainable tourism
Year I, hospitality and tourism vocational education	Geography	Role of protected areas in the conservation of flora and fauna

Source: Authors' analysis of textbooks (Gjorgoski et al. 2023; Panov, Selmani 2016; Pavlov, Pavlovski 2020; Vasilevski et al. 2002; Stojmilov 2002; Pavlov et al. 2017; Pavlov 2022).

Students' knowledge and experiences

Most students (87.9%) state that they know what protected areas are, 78.3% have visited a protected area, and 75.3% have studied them in geography lessons. However, only 16.1% of students learn about the topic "often", while 37.2% answered "rarely" or "never". Knowledge is limited to one category: national parks are known by 85.4% of students, while all other categories are recognised by less than one third, and multipurpose areas by only 6.3%. The picture is almost identical for the categories studied in class, which corresponds to the focus of the curricula (Table 4).

Table 4. Students' knowledge of and experiences with protected areas

Question / answer	n	%
Knows what protected areas are – yes (n = 736)	647	87.9
Has visited a protected area – yes (n = 741)	580	78.3
Has studied them in geography lessons – yes (n = 737)	555	75.3
Has taken part in an excursion or visit as part of geography teaching – yes (n = 732)	339	46.3
How often protected areas are studied (n = 741)		
often	119	16.1
sometimes	346	46.7
rarely	211	28.5
never	65	8.8
Categories: known (n = 717) / studied in class (n = 711)	**known, %**	**studied, %**
National park	85.4	88.3
Natural monument	28.0	26.4
Nature park	28.5	27.7
Protected landscape	14.8	14.9
Strict nature reserve	13.0	16.0
Wilderness area	12.3	11.1
Multipurpose area	6.3	8.4

Multiple answers were possible for the categories
Source: Authors' survey of students, 2024.

The most common source of information is the teacher's lecture (59.3%), followed by the internet (54.1%) and textbooks (45.9%), while visits to protected areas are cited by 22.3% of students. As the activity that helps them most in learning, students most often choose the teacher's lecture (62.7%), while group projects (34.9%), excursions (34.6%) and work with maps and atlases (30.4%) are chosen by approximately one third. Educational videos and documentary films (55.2%) and lectures by experts (46.2%) were rated as the most useful additional resources (Table 5).

Table 5. Sources of information, activities and resources according to students (multiple answers possible)

Option	n	%
Most common sources of information (n = 734)		
teacher's lecture	435	59.3
internet (websites and videos)	397	54.1
geography textbooks	337	45.9
visits to protected areas	164	22.3
documentary films	105	14.3
Activities that help most with learning (n = 713)		
teacher's lectures	447	62.7
group projects and presentations	249	34.9
visits to protected areas (excursions)	247	34.6
work with maps and atlases	217	30.4
documentary films	117	16.4
Resources that would be most useful (n = 728)		
educational videos/documentary films	402	55.2
lectures by experts in the field	336	46.2
research articles	209	28.7

Source: Authors' survey of students, 2024.

Students' attitudes

Of the students, 78.4% rate the study of protected areas as important or very important, and 87.8% believe that it improves their understanding of nature protection. More lessons on the topic are wanted by 53.8%, but as many as 34.7% are undecided. The inclusion of the topic in the curricula is most often rated as "moderately effective" (61.4%). Regarding textbooks, most students are not sure whether they contain enough information (45.5%), and 30.3% believe they do not. Half of the students (49.2%) believe that the topic should definitely be given more prominence in the curricula (Table 6).

Table 6. Students' attitudes towards the representation and importance of the topic

Question / answer	n	%
Importance of studying protected areas (n = 719)		
very important	211	29.3
important	353	49.1
partly important	135	18.8
not important	20	2.8
Effectiveness of inclusion in the curricula (n = 728)		
very effective	124	17.0
moderately effective	447	61.4
ineffective	114	15.7
not included at all	43	5.9

Sufficient information in textbooks (n = 730)		
yes, there is enough	177	24.2
no, there is not enough	221	30.3
not sure	332	45.5
Would like more lessons on protected areas (n = 730)		
yes	393	53.8
no	84	11.5
don't know	253	34.7
Learning improves understanding of nature protection (n = 732)		
yes, significantly	344	47.0
yes, to some extent	299	40.8
no	36	4.9
not sure	53	7.2
The topic should be given more prominence in the curricula (n = 733)		
yes, definitely	361	49.2
maybe, but it is not a priority	284	38.7
no, it is not necessary	39	5.3
not sure	49	6.7

Source: Authors' survey of students, 2024.

Fieldwork and differences between groups of students

Of the students, 46.3% took part in an excursion or visit to a protected area as part of geography teaching. Among those who took part and rated the experience (n = 334), 51.8% rate it as very useful, 43.7% as moderately useful and 4.5% as not useful for understanding the importance of conservation. Students who took part in fieldwork show more positive attitudes towards the topic. They more often want more lessons on protected areas (60.7% vs. 47.9%), more often believe that the topic should definitely be given more prominence (54.4% vs. 44.6%), more often state that learning significantly improves their understanding of nature protection (51.6% vs. 42.7%) and more often rate the topic as very important (34.4% vs. 24.5%) (Figure 1). The difference is even more pronounced depending on whether the topic was covered in class: among students who studied protected areas, 92.6% know what they are, compared with 73.9% of those who did not study them.

The differences between primary and secondary school students are smaller. Secondary school students more often believe that textbooks do not contain enough information about protected areas (40.8% vs. 26.6%), have less often taken part in fieldwork (40.4% vs. 48.6%) and less often state that learning about protected areas "significantly" improves their understanding of nature protection (40.4% vs. 50.0%). For the other questions, the differences between the two groups are small.

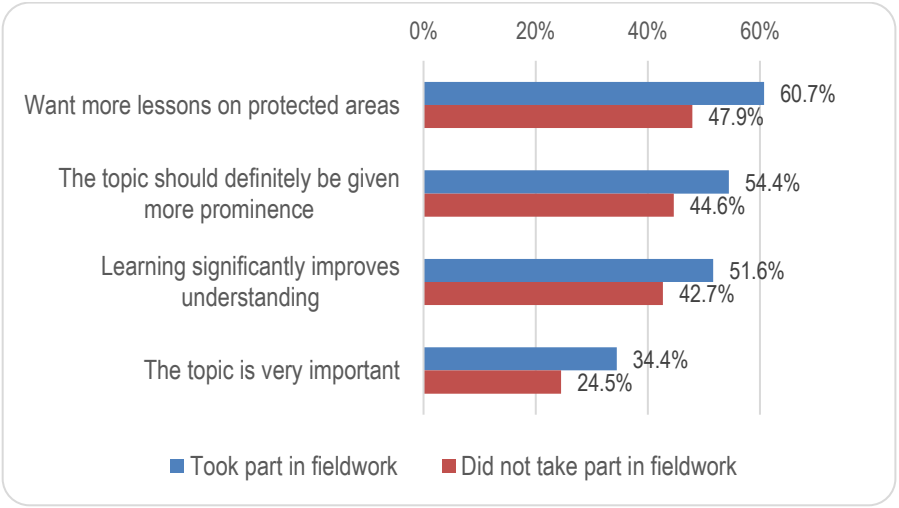


Figure 1. Students' attitudes according to participation in fieldwork in a protected area (%)
Source: Authors' survey of students, 2024.

Teachers' attitudes and practice

Teachers most often include the topic in their teaching "sometimes" (38.7%) or "often" (31.9%), and 16.0% "very often". The coverage of the topic in the curriculum is rated as good by 15.8%, as acceptable but in need of additional materials by 44.2%, and as insufficient or non-existent by 40.0%. The assessment of teaching materials is similar: only 11.7% consider them very useful and up to date, while 35.8% consider them limited and inadequate. The lack of teaching materials is also the most frequently cited challenge (70.1%), ahead of lack of time (28.2%) and lack of student interest (17.9%).

In explaining the topic, teachers most often use projects and research (53.8%), discussions (51.3%) and lectures (42.0%), while only 17.6% use fieldwork. At the same time, field research is rated as the most effective activity for engaging students (63.0%), and support for field activities and visits is the most common recommendation for improving teaching (53.3%). Students' interest is rated as partial by 60.8% of teachers, and 71.7% believe that students do not have sufficient knowledge of the importance of protected areas (Table 7).

As the most important thing to convey to students, teachers single out the natural beauty and importance of protected areas (51.7%), followed by the problems and challenges of their conservation (38.3%), and least often practical activities for nature conservation (20.8%). Teachers rate the topic as more important than students do: 97.5% of teachers and 78.4% of students consider it important or very important, with 51.7% of teachers and 29.3% of students rating it as "very important" (Figure 2).

Table 7. Responses of geography teachers

Question / answer	n	%
How often they include the topic in teaching (n = 119)		
very often	19	16.0
often	38	31.9
sometimes	46	38.7
rarely	14	11.8
never	2	1.7
Coverage of the topic in the curriculum (n = 120)		
well developed and clearly set out	19	15.8
acceptable, additional materials needed	53	44.2
insufficient, covered very briefly	44	36.7
not covered at all	4	3.3
Assessment of teaching materials (n = 120)		
very useful and up to date	14	11.7
sufficient, but need supplementing	61	50.8
limited and inadequate	43	35.8
I do not use them at all	2	1.7
Methods used (n = 119)*		
projects and research	64	53.8
discussions	61	51.3
lectures	50	42.0
fieldwork	21	17.6
Most effective activities for engaging students (n = 119)*		
field research	75	63.0
discussions and debates	45	37.8
practical projects	43	36.1
multimedia presentations	31	26.1
Greatest challenges (n = 117)*		
lack of teaching materials	82	70.1
lack of time	33	28.2
lack of student interest	21	17.9
Recommendations for improving teaching (n = 120)*		
support for field activities and visits	64	53.3
more resources and teaching aids	25	20.8
more interactive lesson plans and materials	25	20.8
training and workshops for teachers	17	14.2
connecting students with experts	14	11.7
Students' interest in the topic (n = 120)		
very interested and active	43	35.8
partly interested	73	60.8
not interested at all	4	3.3

Multiple answers possible **Source:** Authors' survey of geography teachers, 2024

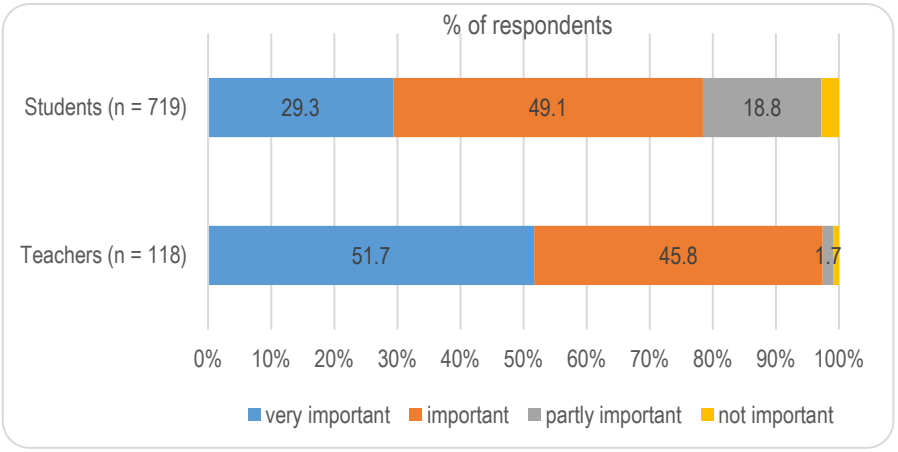


Figure 2. Assessment of the importance of studying protected areas among students and teachers (%) **Source:** Authors' surveys of students and geography teachers, 2024.

DISCUSSION

The results show that students are familiar with the concept of protected areas, but their knowledge is limited and superficial. Almost nine out of ten students know the concept, but their knowledge is practically reduced to national parks, while the other categories of the national protection system remain unknown to the majority. This is consistent with the finding of the curriculum analysis that the content is concentrated on national parks, and it indicates that students know what teaching offers them. This is also confirmed by the relationship between covering the topic in class and knowledge of the concept, which is the strongest relationship identified in the research.

The teacher remains the main source of knowledge, but more than half of the students also look for information on the internet, and they choose videos and documentary films as the most useful resources. In contrast, teachers rate multimedia presentations as the least effective (26.1%), and the lack of teaching materials is their greatest challenge. Taken together, these results point to the need for up-to-date, verified and easily accessible digital materials on protected areas in the country, which would direct students' independent searching towards relevant sources.

The research showed that fieldwork is highly valued but rarely used in teaching. Teachers rate it as the most effective activity and most often ask for support precisely for it, yet fewer than one fifth use fieldwork, and more than half of the students have never taken part in fieldwork in a protected area. The survey did not directly examine the reasons for the infrequent use of fieldwork. Among the challenges offered, teachers most often chose the lack of teaching materials, but other possible reasons, such as financial and organisational obstacles, were not covered by the questions. Therefore, the reasons for the infrequent use of fieldwork in North Macedonia should be the subject of separate research.

Students who took part in fieldwork have more positive attitudes towards the topic, which points to the benefits of learning in a natural environment. However, the research was conducted at a single point in time, so it cannot be concluded that fieldwork itself caused the more positive attitudes. It is possible that more interested students, or the students of more engaged teachers, take part in such activities more often. In addition, almost half of the participants rate the experience as only moderately useful. This suggests that students sometimes experience fieldwork more as an outing than as learning, and that its effect depends on whether it is well designed, prepared and followed up with classroom activities. Therefore, simply increasing the amount of fieldwork in nature is not enough. Field assignments with clear objectives are needed, such as those described in the national methodological literature (Dimitrov, Markoski 2011), together with their integration into project work (Đorđević et al. 2019).

Teachers and students view the topic differently. Teachers almost unanimously consider it important, but rate students' interest as partial and their knowledge as insufficient, whereas students assess their own knowledge more favourably. A considerable share of students are undecided, for example about the need for more lessons, which may mean that the topic has not so far been presented to them in an engaging way. It should be noted that the research has several limitations. The survey was conducted online, with students and teachers who responded voluntarily, so the results cannot be fully generalised to all students and teachers in the country. Primary school students are overrepresented. The responses express students' opinions rather than their actual knowledge. With online surveys, the possibility that someone completed the survey more than once cannot be excluded.

CONCLUSION

Protected areas are represented in geography teaching in the Republic of North Macedonia, but to a limited extent, mainly through national parks and most often through lectures. Students know the concept and national parks, but are much less familiar with the other categories of protected areas. They consider the topic important, but a considerable share of them have not formed an opinion on its representation. Teachers rate the topic as very important, the teaching materials as insufficient and fieldwork as the most effective activity, although they rarely use it.

Three recommendations emerge from the results of this research. First, the content of curricula and textbooks should be extended from national parks to the entire system of protected areas and to the problems of their management and conservation. Second, teaching materials on the protected areas of the country are needed, including digital and video content, as well as elaborated field and project assignments that teachers can apply directly. Third, fieldwork in protected areas requires institutional support – organisational and financial – and cooperation between schools and protected area managers, including teacher training. This research represents an initial step in identifying the attitudes of students and teachers

towards the inclusion of protected areas in education. In further research, this issue will be explored in greater depth through a more detailed analysis of the ways in which protected areas are included in geography teaching, as well as through an examination of the effects of fieldwork, by measuring students' knowledge and attitudes before and after teaching in a protected area.

REFERENCES

Dimitrov V. N., Markoski B. (2011): Field Teaching – Geography Handbook. Skopje, 1-114 (in Macedonian)

Dimitrovska O. (2008): Treatment of environmental protection in geography teaching. Geographical Reviews, Vol. 41-42, 159-166, Skopje (in Macedonian)

Dudley N. (Ed.) (2008): Guidelines for Applying Protected Area Management Categories. IUCN, Gland, Switzerland, 1-86

Đorđević I., Živković Lj., Jovanović S. (2019): The importance of the project teaching for acquirement of geographical functional knowledge. Proceedings – New Trends in Geography, Ohrid, 401-410

Đorđević I., Živković Lj., Markoski B. (2024): Project-based teaching for more effective learning – a case study of Serbia and North Macedonia. Proceedings of the VI Congress of Serbian Geographers with International Participation, II Geographical Education, Zlatibor, 44-52 (in Serbian)

Gjorgoski I., Najdoski M., Mitrevski B. (2023): Natural Sciences 6 – Textbook for Grade VI of Nine-Year Primary Education. Skopje, 1-193. https://www.e-ucebnici.mon.gov.mk/pdf/Prirodni_nauki_6_mk.pdf (in Macedonian)

IGU-CGE (2016): International Charter on Geographical Education. International Geographical Union – Commission on Geographical Education, Beijing. https://www.igu-cge.org/wp-content/uploads/2019/03/IGU_2016_eng_ver25Feb2019.pdf

Miao S., Meadows M. E., Duan Y., Guo F. (2022): How does the geography curriculum contribute to education for sustainable development? Lessons from China and the USA. Sustainability, Vol. 14, 10637. https://doi.org/10.3390/su141710637

Mitevski G. (n.d.): Primary schools in North Macedonia [online database]. https://gocemitevski.github.io/osnovni-ucilista-mk/ (in Macedonian)

Mitevski G. (n.d.): Secondary schools in North Macedonia [online database]. https://gocemitevski.github.io/sredni-ucilista-mk/ (in Macedonian)

Official Gazette of the Republic of Macedonia (2004): Law on Nature Protection. Official Gazette of the Republic of Macedonia, No. 67/2004 (with amendments up to No. 13/2013), Skopje (in Macedonian)

Panov N., Selmani A. (2016): Geography for Grade VII. Skopje, 1-117 (in Macedonian)

Pavlov K. (2022): Geography for Year I – Hospitality and Tourism Vocational Education. Skopje, 1-124. https://www.e-ucebnici.mon.gov.mk/pdf/Geografija_1_mak.pdf (in Macedonian)

Pavlov K., Pavlovski Gj. (2020): Geography – Textbook for Grade VIII of Nine-Year Primary Education. Skopje, 1-140 (in Macedonian)

Pavlov K., Pavlovski Gj., Milenkovski A. (2017): Geography for Year III – Reformed Gymnasium Education (elective subject). Skopje, 1-160 (in Macedonian)

Rickinson M., Dillon J., Teamey K., Morris M., Choi M. Y., Sanders D., Benefield P. (2004): A Review of Research on Outdoor Learning. National Foundation for Educational Research and King's College London, Field Studies Council, Shrewsbury. https://informalscience.org/wp-content/uploads/2019/02/Review-of-research-on-outdoor-learning.pdf

Savić B., Kukec M., Bađura S., Debevec V. (2019): The School Network in Protected Areas – Guidebook for Protected Areas and Schools. Croatia, 1-111

Scott C. L. (2015): The Futures of Learning 3: What Kind of Pedagogies for the 21st Century? UNESCO Education Research and Foresight, Working Papers No. 15, Paris

State Statistical Office (2025): News Release – Education, No. 2.1.25.07. State Statistical Office of the Republic of North Macedonia, Skopje, 1-6 (in Macedonian)

Stojmilov A. (2002): Geography for Year II – Reformed Gymnasium Education. Skopje, 1-171 (in Macedonian)

Stolton S., Dudley N., Avcıoğlu Çokçalışkan B., Hunter D., Ivanić K.-Z., Kanga E., Kettunen M., Kumagai Y., Maxted N., Senior J., Wong M., Keenleyside K., Mulrooney D., Waithaka J. (2015): Values and benefits of protected areas. In: Worboys G. L., Lockwood M., Kothari A., Feary S., Pulsford I. (Eds.): Protected Area Governance and Management. ANU Press, Canberra, 145-168

UNESCO (2017): Education for Sustainable Development Goals: Learning Objectives. UNESCO, Paris. https://unesdoc.unesco.org/ark:/48223/pf0000247444

Vasilevski D., Markoski B., Panov N., Dimitrov V. N., Pavlovski Gj. (2002): National Geography for Year II – Reformed Gymnasium Education. Skopje, 1-183 (in Macedonian)

von Lachmann M., de Souza Couto R., Portas R. (2021): Environmental education in protected areas in Petrópolis, Rio de Janeiro: children as agents of empathy for and engagement with the cause of nature conservation. In: Bohemia E., Nielsen L. M., Pan L., Börekçi N. A. G. Z., Zhang Y. (Eds.): Learn X Design 2021: Engaging with Challenges in Design Education, Shandong University of Art & Design, Jinan, China. https://doi.org/10.21606/drs_lxd2021.02.130

ОБРАЗОВНИОТ ПОТЕНЦИЈАЛ НА ЗАШТИТЕНИТЕ ПОДРАЧЈА ВО НАСТАВАТА ПО ГЕОГРАФИЈА: ПЕРЦЕПЦИИ НА УЧЕНИЦИТЕ И НАСТАВНИЦИТЕ ВО СЕВЕРНА МАКЕДОНИЈА

ПРОШИРЕН АПСТРАКТ

Заштитените подрачја се природни целини со исклучителна еколошка, научна и образовна вредност. Тие се погодно место за проучување на природните процеси, а многу од нив развиваат образовни програми во соработка со училиштата. Географијата е предметот во кој оваа образовна функција може најприродно да се оствари, особено преку теренска и проектна настава. Сепак, во Северна Македонија недостасуваат емпириски истражувања за тоа како заштитените подрачја се вклучуваат во наставата по географија и како оваа тема ја перципираат учениците и наставниците.

Целта на трудот е да се утврдат познавањата, искуствата и ставовите на учениците, како и ставовите на наставниците по географија, во врска со вклучувањето на заштитените подрачја во наставата. Истражувањето е квантитативно, спроведено со два анонимни анкетни листа и е дополнето со анализа на содржината на наставните програми и учебниците по географија и природни науки. Анкетирани се 745 ученици од VIII и IX одделение во основното и од I и II година во средното образование, како и 124 наставници по географија. Податоците се обработени со дескриптивна статистика (фреквенции и проценти) и со вкрстување на одговорите меѓу групите ученици.

Анализата на наставните програми покажува дека темата е присутна во неколку одделенија и години, но во мал обем, претежно преку националните паркови и без предвидени конкретни активности како теренска или проектна работа. Повеќето ученици (87,9%) знаат што се заштитени подрачја, но нивното знаење е сведено речиси само на националните паркови (85,4%), додека другите категории ги препознаваат помалку од една третина од учениците. Главен извор на информации е наставникот (59,3%), а потоа интернетот (54,1%) и учебниците (45,9%). Темата ја сметаат за важна или многу важна 78,4% од учениците и 97,5% од наставниците.

Најизразен резултат е разликата меѓу вреднувањето и примената на теренската настава. Наставниците ја оценуваат како најефективна активност за ангажирање на учениците (63,0%), но ја применуваат само 17,6%, а повеќе од половина од учениците никогаш не учествувале во теренска настава во заштитено подрачје. Учениците што учествувале во теренска настава покажуваат поповолни ставови: почесто сакаат повеќе часови за темата (60,7% наспроти 47,9%) и почесто ја оценуваат како многу важна (34,4% наспроти 24,5%). Наставниците како најголем предизвик го наведуваат недостигот на наставни материјали (70,1%), а како најчеста препорака поддршката за теренски активности (53,3%).

Од резултатите произлегуваат три препораки: проширување на содржините од националните паркови кон целиот систем на заштитени подрачја; изработка на современи наставни материјали, вклучително дигитални содржини и разработени теренски и проектни задачи; и институционална поддршка и соработка меѓу училиштата и управувачите на заштитените подрачја, вклучително и обуки за наставниците. Истражувањето претставува почетен чекор, а натамошните истражувања треба да ги испитаат ефектите од теренската настава преку мерење на знаењата и ставовите на учениците пред и по наставата во заштитено подрачје.

Клучни зборови: заштитени подрачја, образовен процес, географија, ученици, наставници