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## THE POSITION OF FIELD EDUCATION IN THE CURRICULUM OF PRIMARY, SECONDARY AND TERTIARY EDUCATION IN SLOVENIA

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## Introduction

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Fieldwork is a form of direct contact with the landscape, the subject of geographical study. As such, it is very important in research and teaching, i.e. in geographical research work and in the study of geography, as well as in learning geography at different educational levels.

In this paper, we want to present aspects of fieldwork as an educational process in primary, secondary and tertiary geographical education in Slovenia. To this end, we have set the following goals:

- explain the concept and purpose of fieldwork;
- evaluate the importance of fieldwork in the educational process;
- define the educational contexts of geographical fieldwork;
- present the representation of fieldwork at the level of primary, secondary and tertiary geographical education in Slovenia;
- on the basis of the research of the actual curriculum, describe the aspects of the preparation, organization and implementation of geographical fieldwork at the primary and secondary educational level in Slovenia and the views of the surveyed teachers on fieldwork.

### *The concept and purpose of fieldwork as an educational process*

The Slovenian primary school syllabus for geography (2011) and the grammar school syllabus for geography (2008) present fieldwork as a set of learning activities that pupils or students perform outside of the classroom or schools. These are often excursions, observation of the landscape, research and discovering (for students) new knowledge. In Slovenian geographical literature, fieldwork appears as an antithesis to laboratory and cabinet work, “as a syntagm that we understand, use and that is not semantically questionable.” (Lipovšek, 2016, p. 7). Fieldwork is understood as a “didactic process in which students learn not only the laws of the landscape, but also develop the skills for direct research of the landscape, not only geographical, for the needs of geography, but general, interdisciplinary, for life” (Ibidem, p. 9). The Slovenian syllabi for history and biology (Kunaver, 2008; Vilhar, 2008) attach similar importance to fieldwork—it is “a component of teaching based on observation, research and recording of the landscape; a didactic procedure that may take place during normal lessons, on an excursion, on a school learning path, an educational walk, a science day, during so called school in nature weeks or another activity related to the prescribed school program” (Lipovšek, 2016, p. 9).

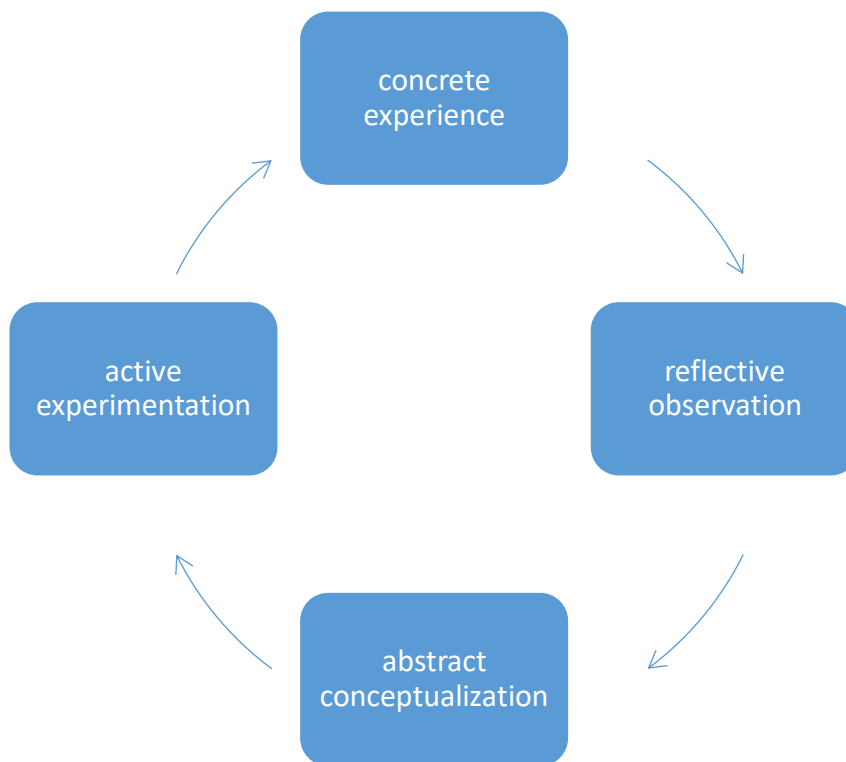
### *The importance of fieldwork*

Starting from the definition of geographical science, fieldwork is a fundamental research method, as it enables direct contact with the landscape, which is the subject of study of this science. It is logical that this approach is consequently also important in geographical education. Field education is direct learning in a complex space, in which natural and social elements are systematically intertwined. Thus, it is the form of learning/teaching work that is most experiential and holistic in the teaching of geography. It enables a multi-sensory perception of the entire space. In the time of individualization and digitalization, and thus a kind of distance of students from nature and the community, it is often necessary to re-teach them to contact the living environment at the basic level in order to understand it, live in it and work sustainably. Fieldwork thus gains further importance in its mission.

## Educational context of fieldwork

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The idea of field education coincides with key modern educational philosophies. One of the fundamental ones is the philosophy of experiential learning. According to Kolb (1984), experiential learning is any learning in direct contact with reality, a direct confrontation with phenomena, in which knowledge is created through the transformation of experience. Thus, according to Kolb, knowledge is the result of a transaction between social knowledge (objective knowledge) and personal knowledge (subjective experience) in the learning process. According to Kolb, learning is a cyclical process that comprises four stages: (1) concrete experience, which includes a holistic perception of the phenomenon / process, including the emotional dimensions, (2) thoughtful observation in terms of careful observation and impartial description, where is important how things / phenomena matter / processes work; (3) abstract conceptualization, which means the opposite of intuition, logical reasoning, systematization, generalization based on acquired experience; (4) active testing or experimentation, which means practical applicability and operation on the basis of acquired experience or checking concepts in new situations by obtaining feedback.



*Figure 1: Kolb's learning cycle.*

Fieldwork also coincides with the educational philosophy of research learning, which introduces individual elements of scientific work into the educational process (Ivanuš Grmek and Javornik Krečič, 2011, as cited in Kačič, 2013), as students through independent field research acquire (subjectively or even objectively) new knowledge, while also learning self-organization, managing their own learning and work, skills and abilities of lifelong learning. The philosophy of independent individual or collaborative research of students is close to the philosophy of project learning, the essence of which is a goal-oriented active solution of real (authentic) challenges / problems / thematic issues, where students participate in all phases of the process—from the preparatory phase to project work planning, the implementation of this and interpretation of the results, their dissemination and finally evaluation and reflection (Bezgovšek, 2019). Last but not least, the basic idea of fieldwork is also related to the philosophy of problem-based teaching, aimed at solving realistic problems that do not necessarily have an unambiguous answer. Problem-based teaching includes phases of problem perception, problem definition and formulation, problem solving planning and hypothesis setting, realization and verification of the problem plan or hypotheses and the phase of formulation and generalization of the solution of the problem (Bognar et al., 1993; as cited in Kokalj b.d.). Within this, special emphasis should be placed on the advantages that are manifested in higher thought processes, and especially in the development of creativity.

These educational philosophies are partly overlapping and interconnected (research learning can be organized according to the principle of project-based learning and includes a realistic problem question) and partly include certain specific characteristics or they can exclude individual elements from each other. In any case, the mosaic of the aforementioned educational philosophies can be the source of creative ideas for the didactic organization and



meaningfulness of geographical fieldwork. Furthermore, the active involvement of the student in geographical fieldwork supports the student's holistic (personal, educational) presence in a given moment and space, so it is also related to the philosophy of mindful learning (Shapiro et.al., 2006). It is essential to pay close attention to what is happening in the present moment (in oneself, in one's own learning process, within a specific geographical space) and the resulting self-regulation and potential change (oneself, one's own learning process, dealing with or in a geographical space).

If we look at fieldwork from the perspective of general modern educational guidelines, which emphasize the active involvement of the student to achieve quality educational outcomes, we can highlight the classification of fieldwork methods by Kent, Gilbertson and Hunt (1997), which distinguish between:

- observational fieldwork (requires mostly the presence of students, but not active participation; it is a relatively fast movement from one location to another, e.g., an excursion, where we see a large number of spatial elements and phenomena, but viewing them is superficial; work in this way is useful, for example, for introductory fieldwork; the effectiveness of observational fieldwork increases if students are more involved; in the case of observational fieldwork it is common to supplement students' activities with a worksheet or map where they respond to pre-set tasks with their own observations and knowledge);
- collaborative fieldwork (this is work in small groups; compared to observational fieldwork, the collaborative form should include the student's activity to a greater extent; the teacher often determines the activities and carefully controls the final analysis of the work, but can only help design a project and offer help and methodological orientation in the phases that follow; in the student-led project work, the teacher only encourages the group and advises on safety);
- observation with participation (it is a method of fieldwork in which the observer is part of a certain social life, thereby directly obtaining data on processes in a particular social environment; it is a "system of data collection in a specific period / time based on observation, listening and questioning people as they follow their daily activities, during which the researcher takes a role from their context and partially becomes a member of the group" (Lavrič & Naterer, 2010, p. 11); participatory observation is a method where students intensively participate in the activities of an organization, gaining a deeper insight into their reality (e.g., humanitarian, commercial, governmental organizations, local and national environmental agencies) (as cited in Simonič, 2020).

## The position of fieldwork in the Slovenian geographical curriculum

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Until the curricular renovation in 1998, fieldwork in Slovenia was not included in curricular documents as a compulsory component of lessons. If it was carried out, it was in the context of excursions, science days, outdoor camps, outdoor schools and the like. Nevertheless, Slovenian geographers devoted themselves to this form of work in schools even before it was included in curricular documents, and as a result, various manuals and publications were created to support the implementation of fieldwork. Among them were the first, e.g., Kert 1981, *Geography 3: Geographical Features and Contemporary Problems of Slovenia and Yugoslavia 1, Getting to Know and Studying the Home Region*; Geographical Review 1989: a special issue of the *Journal for Geographical Education*, dedicated to the research tasks of students or field students; Kunaver et al. 1989, Home Province. Fieldwork as a supplement to geography lessons before its introduction into curricular documents is mentioned by several other authors in Slovenia, e.g., Zgonik (1995), who refers to it as field research work and places it among additional pedagogical-didactic work, sees it as a source of developing creative thinking (Lipovšek, 2016). As Brinovec (2004) writes, in the 1970s, Medved also emphasized the importance of fieldwork for gaining knowledge through observation from the home environment, which is a source of geographical knowledge for him. With the curricular renovation in 1998, fieldwork was officially included in the curriculum of primary and secondary schools in Slovenia. In the years after the renovation, it also became mandatory for national tests in primary school and at the gymnasium matura. Students who choose geography as an elective subject obtain 20% of the grade of the subject from the completed fieldwork. When the 'national tests' were renamed into the 'national examination' in 2005, the external examination of fieldwork in primary school was abolished. In Slovenia, fieldwork is thus explicitly defined in the curricula of primary and secondary schools as a compulsory component of lessons based on the opinion that students develop knowledge in fieldwork that they do not acquire with other educational methods (Polšak, 2008; Kolnik, 2011; as cited in Lipovšek, 2016).

Expert bases for the support of the introduction of the aforementioned curricula by the National Education Institute of the Republic of Slovenia also emphasized the importance of including active learning methods in geography lessons, which include methods and forms of fieldwork. In the period of introducing the curricula, efforts were made in the first Slovenian written reflections on the problem of fieldwork assessment and in the formation of the assessment pattern, which was especially related to the formation of matura grades (Lipovšek, 2016).

In the book *Slovenska šolska geografija s pogledom v prihodnost*, which is one of the key works in the field of school geography less than ten years after the aforementioned curricular renewal, Kunaver emphasized the importance of fieldwork (2005), relied on the International Charter on Geographical Education and specifically mentioned Haubrich, who saw the disadvantages of teaching geography in the lack of fieldwork and experimentation (2005, p. 90 in Lipovšek, 2016). Kolnik (2006, as cited in Lipovšek, 2016) expanded her professional reflection on the didactic value of learning geography outdoors by emphasizing the importance of thinking about the meaning, purpose and value of fieldwork, as well as the key

criteria for its preparation, evaluation, and on the elements for didactic analysis of the components of educational work outdoors.

## Representation of the topic of (educational) fieldwork in Slovenian research

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In the period from the publication of the aforementioned papers to the present day, several final student research works at various educational levels (from diplomas to master's degrees) in Slovenia were dedicated to fieldwork. Thus, a review of Slovenian research works (Simonič, 2020) which include the key phrase 'fieldwork' between 2008 and 2020, shows that twenty-one final works dedicated to this topic were written during this time. Most authors support fieldwork and note positive results in doing so. At the same time, they point out some possible negative aspects, which, in the opinion of most authors, can be eliminated, especially with good preparation. The final works related to fieldwork mostly deal with the first and second triad of primary school and occasionally fieldwork in gymnasiums, as well as with the general aspects and attitudes of teachers towards fieldwork in geography lessons. The number of final works undoubtedly testifies to the understanding of fieldwork as an important element of geography lessons.

In the continuation, we will highlight the approaches of two Slovenian authors to the methodological classification of geographical fieldwork. In the 1990s, Brinovec (1997) developed a set of methods for fieldwork in geography lessons. He has already understood fieldwork as a basic form of geographical teaching and mentioned several of its advantages, such as greater work efficiency, motivating and activating students and the possibility of differentiating between students. He classified the fieldwork methods according to the prevailing work process and distinguished between direct observation methods, drawing methods, measurement methods, sample collection methods, interview and survey methods, and data collection and mapping methods. He understood the method of observation as a fundamental geographical method that needed to be learned gradually. According to Brinovec, students learn inductively, so they come to general conclusions from an individual case. This method is performed independently or combined with other methods (drawing, collecting samples, surveys, etc.) and learning forms (working in pairs, groups, etc.). He understood drawing methods as drawing a sketch or panoramic drawing, emphasizing the importance of the systematic introduction of students. Brinovec's measurement methods represent a bridge between theory and practice, which could be understood as a bridge between (merely) describing and exploring space. In this framework, students learn to handle instruments for measuring and to interpret results. In the method of collecting samples, Brinovec emphasizes the collection of rocks, but in geography it is also useful to collect samples of other natural elements, and last but not least, social elements (newspaper clippings, postcards, etc.). The collections of these enable easier contact with reality already at school or an easier transfer and use of knowledge in a real environment. Interview and survey methods are particularly important in the context of social geography, but they can also be linked to physical-geographical or complex environmental topics. As a method of data



collection, Brinovec understood in particular the independent acquisition of data (without measuring instruments), e.g., counting certain elements (number of visitors, cars, etc.). Brinovec understood the mapping method as recording and spatial representation of geographical phenomena on maps (Brinovec et al., 1997; as cited in Simonič, 2020).

On the basis of Brinovec's classification, a collection of concrete work procedures was gradually formed, especially for physical-geographical educational fieldwork, which appear in several Slovenian research works as examples of work with pupils, students, other visitors on learning paths or in classrooms in nature (as Radinovič, 2020; Jus, 2019). In the period from 2005 to 2020, Vovk Korže worked intensively in the field of collecting, developing and describing methods (educational and research) of fieldwork with her colleagues (e.g., Vovk Korže, 2007).

Along with Brinovec, Lipovšek (2016) also considered the methodology of fieldwork for educational purposes. He looks at fieldwork from the teacher's practical point of view, when he concludes that fieldwork in geography lessons can be used as:

- means (in this case, students, according to the teacher's instructions in the field, only perform the assigned tasks, for example collect samples, count certain elements of the landscape, record information or remember them, followed by an analysis of what they acquired, including a final report, poster, role play, etc.; in such a case there may be a lack of understanding of the bigger picture or more complex geographical learning objectives may not be achieved);
- the form of teaching (in this case the teacher transfers comprehensive learning activities from the classroom to the landscape, with special preparation of students, as this also lays the foundation for their future outdoor work (for example how to prepare, what tools to take with themselves, what unpredictability can await them, how much time they spend on such an activity, etc.);
- cognitive method (includes a comprehensive research process by students: identification and definition of the problem, formation of assumptions and possible solutions, elimination of irrelevant information, collection of information, storage and archiving of materials, data analysis, reflection on results, confirmation or rejection of assumptions and creation of new assumptions and a new research circle).

Lipovšek (2016) proposes field assignments according to their purpose, current pedagogical philosophy, leading aids or methods in fieldwork, based on general educational guidelines and the needs of geography as a science and a school subject. Highlights include:

- regionally oriented field tasks (field related to the study of the integrated regional environment);
- mapping and surveying (emphasizes geographical skills that are prescribed in the curriculum for primary and secondary schools and can be conducted in a hands-free or computer form);
- computer-assisted field tasks (related to the use of, for example, a computer interface that allows the connection of various sensors (e.g., GPS, thermometer, etc.)

and measures and stores measurements in the form of graphs and tables at intervals);

- virtual fieldwork (motivational tool, source of information for lessons and means for acquiring new knowledge, where the student uses information technologies to achieve goals);
- self-assessment-oriented fieldwork (responsibility for results is assumed by the student).

## Fieldwork in primary and secondary geographical education in Slovenia

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The current syllabus for geography in primary school (Kolnik et al., 2011) already defines the subject in the introduction in such a way that it answers current environmental questions and thus develops the student's interest in the domestic landscape. The syllabus for grammar schools (Polšak et al., 2008) also defines geography as a subject that helps students acquire knowledge, abilities and skills to understand the immediate and wider environment. The authors of both syllabuses attach great importance to outdoor lessons, as they believe that such a form of teaching enables students to learn more effectively. They also believe that fieldwork is a good example "for the development of procedural and transferable lifelong knowledge, which is common to all school subjects and with which students acquire new knowledge, improve and disseminate it, and use it to gain an important place in their knowledge of the homeland" (Kolnik et al., 2011, p. 5).

*The syllabus for geography in primary school* (Kolnik et al., 2011) includes three levels of learning objectives: *general learning objectives* define the guiding orientations of the entire subject in primary school, *stage learning objectives* define broadly defined objectives of the entire individual class, and *operational learning objectives* are concretized goals within each of the contents. Already in the general objectives of the subject, the syllabus highlights the collection and use of resources that students acquire through field methods (drawing a panoramic picture, mapping, etc.). Fieldwork is also directly recognized in the general objectives that define the study and research of the home region and Slovenia. If we look at the syllabus for primary school by grades, we can see in the sixth grade that one of the first stage learning objectives defines a student's ability to use different ways of collecting and displaying geographic information. The objective is generally defined, but as such it also includes fieldwork methods. According to the stage objectives, the students in the sixth grade should orient themselves on the map and, with the help of this, move healthily in the landscape during fieldwork and excursions. The stage learning objectives also define the use of geographical research methods, including observation, measurement, interview, mapping, etc. on the field. The operational objectives for the sixth grade, which are directly related to fieldwork, are:

- orient themselves and move with a compass and a map;
- as part of an interdisciplinary excursion, visit at least one natural geographical unit in Slovenia;

- acquire a spatial perception of the home place, province and country (Kolnik et al., 2011).

In the seventh grade, less fieldwork is explicitly covered in the objectives compared to the sixth grade, as the content is the regional geography of Europe and Asia. Thus, we can find only one stage objective which partly refers to fieldwork, more precisely to an excursion—its focus is on the interdisciplinary use of the acquired knowledge, which the student deepens and upgrades with an excursion to be carried out in a selected geographical unit of Slovenia. Among the stage objectives in the eighth grade, we find the goal "uses basic methods for collecting geographical information", which can be linked to fieldwork, and among the operational goals, we do not find any that would be directly related to fieldwork. In the ninth grade, the syllabus determines the subject goals related to Slovenia. It anticipates the training of simple methods for fieldwork on the example of the home region. Students should deepen their knowledge in an interdisciplinary excursion in one of the Slovenian geographical units. Among the operational goals in the ninth grade, one operational goal in the field of rocks is concretized—students should use the findings from the fieldwork to evaluate the importance of the surface and rocks for humans (Kolnik et al., 2011).

*The standards of knowledge* in the syllabus for primary school also include fieldwork, e.g., orientation in nature with various tools and independent geographical research. In addition, the standards substantiate the norm of an annual excursion to one of the Slovenian regions (Alpine, pre-Alpine, Dinaric, Subpanonian and Submediterranean regions), where students use their acquired knowledge on an example in the region (Kolnik et al., 2011). Content organization of excursions or their itinerary depends on the annual plan of an individual school, but the usual organizational trend is that students in each class should visit a different region in Slovenia. Often the geography teacher is the one who prepares the implementation plan of school excursions, the latter being mostly interdisciplinary, and the lessons for them are drawn from the school fund hours and not from the hours of an individual subject according to the official curriculum. *The didactic recommendations* of the syllabus for primary school define various teaching methods and work procedures, including fieldwork and excursions. First of all, the development of students' ability to use geographical research methods, such as observation, measurement, survey, interview, is emphasized. The importance of experiential learning is also defined, which enables students to develop skills for the above methods with the help of research devices and aids. The recommendation suggests that fieldwork should be organized several times in regular classes, the implementation may be defined differently in time, the same applies to the distance of the learning location outside of the classroom. The key criteria for the suitability of learning locations for outdoor geography lessons are given: "reachability (economy, safety), methodological diversity and accessibility of teaching materials" (Kolnik et.al., 2011, p. 31). From the *chapter of recommended activities* in the syllabus, we extracted those that are directly related to fieldwork (Kolnik et al., 2011, p. 33-34):

- visiting the observatory and observing the sky with a telescope or binoculars;
- drawing a general or thematic map;
- visit to a surveying company;

- orientation in nature with map and compass, clock, shadow, etc. (hidden treasure hunt);
- measuring temperature, precipitation, clouds, wind, river, traffic, etc.;
- guiding an excursion;
- surveying, traffic counting;
- visiting a museum, exhibition or show and writing a report.

In primary school, in addition to the compulsory subject of geography, there is also the *optional subject of Life on Earth (eighth grade) and Exploring the Homeland and Protecting its Environment (ninth grade)* (Kunaver et al., 2004). While in the eighth grade the emphasis is on learning about the way of life of people in different environments around the world, such as tropical, desert, monsoon, earthquake, volcanic, mountain, polar and Mediterranean areas, in the ninth grade the emphasis is on field research of natural geographic features (geological structure, relief, climate, soils, vegetation, waters), socio-geographical characteristics of the home place (population, settlements, economy, supply, transport), environmental protection (study of landfills and environmental protection measures, study of changes in the landscape created under human influence) and the protection of the natural and cultural heritage of the homeland. Elective contents of this course are also related to the preparation for the *geographical competition*. The latter takes place under the auspices of the Institute of Education of the Republic of Slovenia and includes both theoretical and fieldwork. Preparation for a geographic school competition is thus an important motivation for organizing field exercises in primary school.

Similarly to the syllabus of geography for primary schools, *the syllabus for geography for grammar schools* (Polšak et al., 2008) in its *general objectives* defines the orientation in nature with the help of various aids as one of the first objectives. Students should learn the correct use of geographical methods and work techniques and related aids in geography lessons. Students should also gain the ability to directly and indirectly observe factors, processes and phenomena in the landscape. A specific general objective defines excursions at the end of which students are expected to write a report. Among the key competencies that should be developed in the teaching of geography, a special set of competencies is defined—related to fieldwork, i.e. research and understanding of geographical processes and relationships and their spatial dimensions. In the syllabus for teaching geography in grammar schools (Polšak et al., 2008), *the operational objectives* are divided into thematic sections. They are listed as mandatory or as recommended activities. Within the framework of general geography, we can find the most operational goals that are directly related to fieldwork. Thus, for instance, the planned use of a geological map as an aid in the fieldwork. Students are also expected to collect rock samples and make basic experiments with them to determine the type of rocks. When examining the soil, students should dig out the profile of the soil, determine its properties and observe the horizons. Students are expected to observe weather, cloud cover, wind, measure temperature, rainfall, etc. in the climate section. It is also planned to photograph surface forms in their environment or on an excursion, photographing a watercourse from the upper to the lower stream. In the chapter on waters, the planned field activities are related to measuring the properties of a watercourse or the water itself. In the

field of socio-geographical topics, the field activity of traffic counting and the analysis of the obtained data are defined. The thematic sections of the geography of the world and Europe do not envisage any operational objective that would be directly related to fieldwork. In the thematic section of Slovenia, some operational objectives from general geography are repeated, but within the specific Slovenian regional environment (e.g., students use fieldwork to determine the properties of rocks and present the findings). Within the socio-geographical chapters of Slovenia, selected groups of the population are to be surveyed or traffic counted and an analysis conducted along with a report (Polšak et al., 2008).

There is also a *special chapter in the syllabus for geography in grammar schools (ibid.) that defines the objectives and recommended activities for fieldwork*. Thus, not all recommended fieldwork is defined by individual years and content sets. Let us highlight some examples of recommendations for the implementation of fieldwork, which we did not find among the operational or general objectives of the syllabus, but are covered in this chapter (Polšak et al., 2008):

- students plan and carry out fieldwork related to a geographical problem;
- students carry out an exercise to determine the level of air pollution (detection of air pollution by lichens, with devices for determining the content of particulate matter in the air);
- students research the problems of people in rural areas by means of a survey;
- students map the function of buildings in a certain settlement.

*Didactic recommendations* for geography in the gymnasium syllabus attach special importance to the use of information and communication technology, also for fieldwork, where various technical aids and digital cameras come into play. The recommendations also suggest the mandatory organization of at least one full-day excursion, where students use different teaching methods of direct observation. Didactic recommendations envisage the implementation of even shorter field exercises, as they supplement the goals that cannot be achieved in the classroom. They also emphasize the positive effects of fieldwork on the development of social goals and goals connected to values. The record in the syllabus states that students who do not take the matura exam in geography have relatively fewer field exercises, but the scope of fieldwork and laboratory exercises in geography lessons should depend on the teacher's professional autonomy and school location.

For the purposes of conducting the grammar school matura, there is the *Subject examination catalogue for geography* (Gaál et al., 2019), which pays special attention to fieldwork, as it represents 20% of the examination grade. It thus defines the individual objectives of field exercises in three sets: natural-geographical, socio-geographical contents of the exercises and exercises with the contents of sustainable development. Among the natural geographical contents we find basic goals, such as orientation and movement in nature with the help of a map and compass, and more demanding ones, such as measuring climatic elements and their analysis and measuring the physical and chemical properties of water. Among the socio-geographical contents of the exercises, various forms of field data collection (mapping, sketching, surveying), analysis, synthesis and design of the final product (e.g., tourist brochure,

proposal of possible traffic improvements) are suggested. The contents of sustainable development are defined through two main goals. The first concerns the collection and analysis of data on drinking water supply, municipal infrastructure, type of heating, etc. and connects the obtained data to the attitude of the population towards the environment. The second concerns the mapping of illegal dumpsites, the inventory and assessment of the size and type of waste. The content of excursions within geography as a matura subject is carried out according to the objectives defined in the Subject examination catalogue for geography (Gaál et al, 2019) in the chapter on the geography of Slovenia.

*The Catalogue of knowledge for secondary professional education* (1998) in the chapter on *guiding objectives* of the course includes the objective related to the skills and abilities to handle simple tools for fieldwork (e.g. inclinometer, thermometer), collecting geographical information, orientation and movement in the landscape with the help of a compass and a map. Special mention is also made of field exercises and excursions, in which students are supposed to identify geographical processes and phenomena through direct contact with the landscape. The *operational objectives* of the course are divided into thematic sections. In the section Man and landscape, we find a goal that envisages the use of simple methods of fieldwork as a way of obtaining geographical information and orientation in the landscape with the help of a map and the sun.

The Catalogue of knowledge for Secondary professional education (1998) states in *didactic-methodological recommendations* that the choice of methods and forms is left to be determined by the teacher, but the forms and methods for students should be active, simple, convincing and interesting in a way that brings students closer to the geographical content. As a special feature, we can find a recommendation for direct observation and lessons in a real environment (excursions and fieldwork). Within these, students should learn about research methods such as: observation, orientation, mapping, measurement, reporting, etc. Excursions are organized according to the guidelines of the Catalogue of knowledge (1998) in Slovenian regions, where the main goal is to connect students' knowledge in theory with practice. This should make it easier to understand and recognize cause-and-effect processes and phenomena. Excursions are interdisciplinary with an emphasis on the fields of geography, history, sociology, mother tongue, art, etc.

As in secondary professional education, the *Catalogue of knowledge for vocational education* (1998) leaves the choice of teaching methods and forms to the teacher. Fieldwork and excursions are mentioned as an opportunity to conduct lessons in a real environment. In this way, we enable students to increase the experiential effectiveness of lessons. At locations in the near or far vicinity of the school, students should become acquainted with the use of simple research methods, thus most easily connecting theory with practice and identifying cause-and-effect relationships between processes and phenomena. Excursions are supposed to be organized in Slovenian regions and to be interdisciplinary.

The analysis of syllabuses for primary schools and different directions of secondary schools show that operational goals directly related to fieldwork are rare and mostly focused on physical geography, but it should be added that the design of general and stage or guidance objectives is so broad that it allows for the integration of substantively and methodologically



diverse fieldwork. The latter is clearly defined in all syllabuses, which is an important basis for teachers to carry out lessons outside of school. Also, all syllabuses anticipate full-day excursions to Slovenian regions. However, since these are definitions at the general level, which are only rarely reflected in the operational goals with which teachers work most directly, it can be shown in reality that the frequency of fieldwork depends mainly on teacher motivation (with the exception of mandatory fieldwork within the matura exam), which can lead to a low realization of it.

In addition to direct geography lessons and excursions, there is also space for the realization of fieldwork in schools in Slovenia during the *days of activities*. Thus, four cultural days, three science, three technical days and five sports days are included in the primary school curriculum annually (Primary school curriculum, 2020). Consequently, e.g., orienteering hikes are often carried out as part of sports days, physical-geographical fieldwork as part of natural science days, aids are made for field exercises as part of technical days, and on cultural days there is also space for socio-geographical field exercises. In addition, or as a realization of school days of activities, schools also carry out *weeks of schools in nature* in the public institution Center for School and Extracurricular Activities (CŠOD), the basic purpose of which is the promotion of learning in nature or fieldwork. Thus, there are 26 CŠOD homes in Slovenia, which implement various programs within which geography has an important place (CŠOD, 2020).

## Fieldwork in tertiary education

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In the Republic of Slovenia, the study of geography at the tertiary education stage takes place at three universities: the University of Ljubljana (Faculty of Arts, Department of Geography), the University of Primorska (Faculty of Humanities, Department of Geography) and the University of Maribor (Faculty of Arts, Department of Geography). In all three departments, there is a study program at two levels: the first level, which lasts three years and which represents a general program of geography, followed by the second level, which lasts two years and in which students are divided into pedagogical and non-pedagogical programs. In our case, we analyzed the entire vertical of the pedagogical study programs, which are two-subject in all three departments.

It follows from the concept of geography that the subject of its study is the landscape. The most primary and direct way of studying the landscape is through direct fieldwork (Rhoads, Wilson, 2010, pp. 27-28), so the inclusion of these forms in the study process is one of the key factors of the students' success in perceiving the landscape.

Data on the representation of fieldwork were summarized according to the curricula published on the websites of all three departments (Study program of the Department of Geography Ljubljana, 2020; Study program of the Department of Geography Primorska, 2020; Study program of the Department of Geography Maribor, 2020). At the departments of

geography in Koper and Maribor, the number of field hours in individual subjects is explicitly indicated, while at the Ljubljana department this cannot be deduced from the syllabus, as only lectures, seminars and exercises are listed as a form of activity. As a result, we obtained data on fieldwork hours from the department administration. In our analysis, we state the structure of the representation of fieldwork as a whole, by levels and by years.

At the Department of Geography of the Faculty of Arts, University of Ljubljana, the first and second levels of study are carried out within 79 study units: 46 at the first level and 33 at the second level. Of these, 11 elective learning units are at the first level and 10 elective learning units at the second level. Fieldwork is carried out in 18 learning units at the first level and in 12 learning units at the second level (pedagogical program). At the first level, fieldwork totals 190 hours, which is 7.7% of all hours. 40 hours fall in the first year (in this year fieldwork represents 6.2% of all hours), 125 hours in the second year (17.4%) and 25 hours in the third year (3.9%). Fieldwork in subjects mostly comprises between 5 and 15 hours, only in the subject Geographic fieldwork the number of hours is 75 (100%). At the second level - pedagogical program, fieldwork takes place in a total of 30 hours. All hours of fieldwork at the second level are carried out in the framework of the subject Organization and implementation of excursions and fieldwork in the first year. In the entire vertical, fieldwork for pedagogical students amounts to 220 hours or 5.8% of all hours.

At the Department of Geography of the Faculty of Humanities at the University of Primorska, the first and second levels of study are carried out within 40 study units (24 at the first and 16 at the second level). Of these, there are a total of 13 elective study units (10 at the first level and 3 at the second level). It can be deduced from the syllabus that at the first level fieldwork is carried out only in elective subjects (Biogeography, Field Seminar Istria, Field Seminar Western and Central Europe, Field Seminar Southeast Europe, Field Seminar Slovenia Abroad) for 30 hours in each subject. At the second level, the amount of fieldwork is not explicitly evident from the syllabus. In the entire vertical, the study units have a total of 150 hours of fieldwork, which represents 6.3% of all pedagogical obligations (if the share is recalculated only to the first level, this share is 10.4%). In all four field seminars, fieldwork represents 67% of all pedagogical obligations within these study units, and in the subject Biogeography 40%.

At the Department of Geography of the Faculty of Arts, University of Maribor, studies are conducted in a two-subject program at the first level within 19 compulsory study units and nine elective study units, from which students choose five study units. At the second level, there is a two-subject pedagogical study within 16 compulsory study units and 20 optional study units, of which students choose three. A total of 74 learning units (28 at the first level and 46 at the second level) were included in the analysis. At the first level, fieldwork is present in 13 compulsory and 9 optional study units, i.e. a total of 22 study units (79% of all study units). At the first level, out of a total of 1065 hours, fieldwork is present in the amount of 135 hours (12.7%), while at the second level, out of a total of 1167 hours, fieldwork is represented by 177 hours (15.2%). In the subjects of both levels, fieldwork is represented by 14.0%. In the first year of the first level, 8.2% of fieldwork hours are among the compulsory subjects, in the second year 5.7%, and in the third year 14.0%. Among the elective subjects of all three years, this share is 22.2%. The contents of fieldwork in individual subjects at the first level are most

often related to the adoption of research methodology in the region at physical and social geography. Students conduct research in Slovenia in the framework of individual subjects, and the results are often presented in the form of posters or articles. Students are introduced to work in groups. At the second level, fieldwork is carried out in 4 compulsory study units and in 8 optional study units, i.e. a total of 12 study units (26% of all study units). This share is expected to be lower at the second level due to the nature of the study orientation: in the curriculum there are not only learning units that are substantively related to geography, but also those that are related to pedagogy, didactics and psychology. In the first year of the second level, the share of fieldwork is 14.3%, and in the second year 8.2%, while in elective subjects this share is 17.9%. Among the subjects at the first level, the highest number of hours of fieldwork is in the compulsory subject Regional Geography of Europe (15) and in the optional subject Tourist Regions in Europe (15), while in most other subjects there are only 5 hours of fieldwork. At the second level, Interdisciplinary Observational Practice (30 hours), Pedagogical Practicum Geography 1 and 2 (16 hours each) and the optional subjects School in Nature (15 hours), Fieldwork in geography lessons - physical geography (10 hours) and Fieldwork in geography lessons - social geography (10 hours) are compulsory among the subjects that stand out in terms of the number of hours of fieldwork. In the entire vertical, there are a total of 312 hours of fieldwork in the study units, which represents 14.0% of all pedagogical obligations (12.7% at the first level, 15.2% at the second level). Students at both levels also participate optionally in *geographical youth research camps*, which take place in the area of north-eastern Slovenia. During the week, they research selected geographical processes and get acquainted more in depth with individual field techniques of geographical research. The obtained results or knowledge of methodological approaches are also used by students in the preparation of master's theses. Another optional way of introducing students to fieldwork is also *research projects financed by the Scholarship Fund of the Republic of Slovenia*.

After a formal review of the representation of fieldwork in the syllabus, we cannot help but to get the impression that there is not enough practical fieldwork in which geography students would come into contact with their subject (landscape) in the most basic way. On the other hand, less fieldwork also means poorer opportunities for direct acquaintance and adoption of field research methods.

## Realization of fieldwork in Slovenian primary and secondary schools

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Despite the fact that the documentary bases of geography teaching in Slovenia support and encourage fieldwork at school, and geography students also have fieldwork in study curricula, we wanted to gain insight into the actual curriculum of primary and secondary schools, i.e. how much fieldwork is actually implemented in schools and what opinions geography teachers have about it.

To this end, we conducted an open survey among ten geography teachers in primary and ten geography teachers in secondary school. The open nature of data acquisition was conditioned by a smaller sample of teachers, as they had to answer several questions independently and extensively. The questionnaire contained general demographic questions and seven open-ended or semi-open-ended questions to test teachers' thoughts on fieldwork, how familiar they were with fieldwork, how often they did it, what the advantages, disadvantages and obstacles they see in the realization of it, to what extent they realize it in cooperation with teachers of other subjects and in which contents, to what extent they realize it in cooperation with external institutions and in which contents. At the same time, we also wanted to gain insight into the actual contents, methods and time placements of fieldwork in the included sample of teachers.

The survey was conducted in the 2019/2020 school year. The average age of respondents teaching in primary school was 44.5 years, and the average length of work experience was 17.6 years. Among the surveyed primary school teachers, 20% completed post-secondary studies and 80% completed higher pedagogical studies. 60% were women and 40% were men. 20% of respondents teach only geography, while the rest combine geography with at least one other school subject (mostly history, followed by pedagogy, sociology, German and English). On average, they have 20 hours of classes per week. If they teach geography in all classes, they have one hour in the sixth, two hours in the seventh, an hour and a half in the eighth, and two hours of geography a week in the ninth grade. In addition to the compulsory geography lessons, 30% of respondents also carry out another geographical activity of interest, or additional hours of geography for the gifted, or a geographical elective subject Research of the home place and protection of its environment or elective course Tourism Education.

The average age of respondents teaching in secondary school was 53.1 years, and the average length of work experience was 23.3 years. All have completed higher education in geography, and two also have a master's degree in science. 70% were women and 30% were men. 70% of the surveyed secondary school teachers teach only geography, and 30% combine the latter with another school subject (history, sociology or social sciences). 80% of them teach at a general grammar school and 20% at professional secondary school programs. On average, they have 20 hours of classes per week. If they teach in grammar school classes, they have two hours of geography in the first year, two hours in the second, two hours in the third, and in the fourth year the number of hours of geography varies from school to school, as it is the year of preparation for matura. Allocation of additional hours from the school's fund of hours results in some schools having three and others even four hours of geography per week. In the included professional secondary school programs, geography is integrated into the subject of Social Sciences together with history and sociology, which share 132 hours per year in one year. Only one of the participating secondary school teachers runs a geographical activity of interest of one hour per week.

## Fieldwork in primary school

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60% of the surveyed primary school teachers of geography stated that they were sufficiently acquainted with fieldwork during their geography studies. When evaluated with a score of 1 to 5, with five representing the highest level of familiarity, they chose a rating of 4 on average.

60% of them state that they were best acquainted with fieldwork in the study subjects of social or physical geography or in field excursions of regional geography, of which 30% also mention subjects related to the didactics of geography and 20% to pedagogical practice in schools or related activities (e.g., participation in a geographic school or international study competition).

One of the respondents never does fieldwork, but would like to do it, 60% of them do fieldwork only occasionally. In the implementation of fieldwork, they perceive various advantages—among the highest evaluated were the following:

- that fieldwork connects learning in the classroom with real life, that it is about developing practical useful skills;
- to enable genuine knowledge of the natural and cultural heritage, genuine contact with the landscape, work in the landscape or direct observation;
- to enable concrete physical and mental activity of students and the handling of various aids;
- that it is motivating for students and affects their relaxation, since the time they spend outside of school is not so restrictive.

In addition to the above, teachers mention the advantages of deepening existing knowledge through fieldwork, improving spatial perceptions, including various “measurement” perceptions, the orientation, strengthening environmental and national awareness, that fieldwork leads to better interdisciplinary connections as well, that it is possible to more successfully involve weaker learners and, last but not least, that the knowledge acquired in the field is more permanent.

Among the shortcomings of fieldwork, the surveyed primary school teachers most often state the number of students in the class or related administrative requirements—according to the current norm, groups of more than 15 students must have an additional accompanying teacher when leaving school. They see an important shortcoming in the fact that fieldwork requires more time (from preparation to implementation and analysis), but in their opinion the syllabus is already overloaded with content and it is necessary to “rush to deal with the material.” They also mention the lack of appropriate aids, dependence on weather conditions, disinterest of (some) students, difficulties with including students with special needs. In only one case was the problem of the location of the school highlighted, namely in the case of a typical city school, where a half-hour walk to the first water stream is required. Individuals (but with low ratings of importance) also mentioned as a shortcoming the problem of superiors’ understanding for the organization of fieldwork and their own qualifications.

When we asked the respondents about the obstacles to the implementation of fieldwork, in several cases they again stated the already described shortcomings of the fieldwork. In their opinion, the highest rated and most frequently mentioned obstacle is of a bureaucratic nature (ensuring the protection of students, which requires the preparation of a safety plan and the

provision of companions, followed by the substitution of participating teachers in their own classes, etc.). They see an obstacle in the financial constraints related to the purchase of equipment and the implementation of excursions.

90% of the surveyed primary school teachers carry out fieldwork in interdisciplinary cooperation with other teachers. They list a wide range of subjects: 50% biology or natural sciences (the most common contents of the connection are related to vegetation: fruit growing, hop growing, tree species, forest), 40% history (industries over time, architecture in the city, tourist attractions, important cultural heritage), 30% physics (energy sources, precipitation, slope, air pressure) and Slovenian language (cultural heritage, verses, proverbs, geographical names), 20% chemistry (rocks in Slovenia, water quality, use of chemical tools), technique and technology (drawing a floor plan and other plans, making fieldwork aids), mathematics (measurement, data processing), sports (movement in nature) and fine arts (drawing a panoramic drawing), as well as foreign languages (verses, proverbs) and computer science (data processing).

70% of participating primary school teachers also carry out fieldwork in cooperation with external institutions, citing the following examples: hydropower plants, the Agricultural Institute of Slovenia, tourist information centers, associations and tourist agencies, the Port of Koper, museums, e.g., Ecomuseum, museum of blacksmithing in Kropa, museum of Postojna Cave, centers of experiments in Maribor and Ljubljana, Environmental Agency of the Republic of Slovenia, libraries, statistical office, birthplaces of important Slovenians.

When we asked the participating primary school teachers to describe concrete examples of fieldwork, we found that in primary school, fieldwork is most represented in the sixth and ninth grades. In the sixth grade, the most frequently mentioned topics are: orientation with a compass, orientation with a map, measuring and calculating distances, describing the location of various points; observing the relief and determining the altitude, drawing terrain drawings and panoramic drawings. Mapping and identification of plant species were also mentioned individually. The aids for conducting field exercises are in accordance with the above and among them are the following: maps, compasses, inclinometers, keys for determining plant species and worksheets with instructions for students. Among the locations for fieldwork in the sixth grade the following were mentioned: school yard, urban surroundings of the school, nearby city parks and forests and excursions to different parts of Slovenia (the itinerary of school excursions depends on the annual plan of the school and varies from school to school). Fieldwork usually lasts from two to five school hours, in the latter case if it is the organization of fieldwork in the framework of excursions or days of activities (science, sports, technical, cultural days). In the seventh grade, the contents of fieldwork are similar to that in the sixth, but they are also joined by observation and measurement of weather / climate elements, soil analysis and surveys. As a result, the keys to determining the soils, clouds, magnifying glasses, distilled water, shovels and so on are also mentioned among the tools. The time of individual fieldwork and its location are similar to those in the sixth grade. The situation in the eighth grade is similar to the seventh. The additionally mentioned content was waters. As the eighth grade follows the syllabus for the World's continents, the presentation of a short individual field exercise was interesting: students check the origin of products they buy in the household



with an emphasis on determining whether they buy palm oil products, which relates to the problem of shrinking tropical forests, then look for alternative products that do not contain palm oil in nearby stores. In the ninth grade, the range of contents and goals of fieldwork is the most extensive. The contents, which also appear in the previous grades of primary school, are joined by searching, recognizing, comparing and analyzing rock samples; chemical and physical analysis of water, observation and sketching of river relief forms; traffic counting; mapping of the tourist offer, purpose of buildings and the like, to which the aids are adapted (various reagents, mapping legends, keys for determining rocks, etc.). The duration and location were defined similarly to previous classes.

## Fieldwork in secondary school

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Also in the case of secondary school teachers, 60% of them showed that they were sufficiently familiar with fieldwork during their studies, but the assessment of this satisfaction is lower than in the case of primary school (3.6). 50% of the respondents state that they were best acquainted with fieldwork in the study subjects of social or physical geography or in the field excursions of regional geography, 10% of them cite subjects related to the didactics of geography and 10% pedagogical practice in schools; we did not receive any data from the rest. 90% of respondents carry out fieldwork, and one respondent does not carry it out due to being relatively new at the job, but would like to carry it out.

The surveyed secondary school teachers state the various advantages of fieldwork, which they also mostly evaluate with the highest grade:

- fieldwork is the application of geographical theory in practice, it enables the development of the ability to observe the landscape and reinforce theoretical knowledge through experiential learning (e.g., we talk about climate elements, then students measure them themselves, compare values, analyze);
- only in the fieldwork do students largely learn the meaning of the learned knowledge; they get to better know and understand the processes in nature; they also find out for themselves what else they lack knowledge of, and they are also willing to search for what they are missing;
- motivation, greater activity and relaxation of students;
- developing spatial orientation;
- developing an understanding of the importance of preserving biodiversity, water purity or environmental protection;
- identifying adjustments of economic activities to sustainable principles.
- In addition to the above advantages, the respondents also mention the development of analytical thinking and various competencies (methodological, social, ICT), strengthening students' self-confidence through individual and team work, easier achievement of certain goals and linking content and subjects.

The disadvantages of fieldwork include:

- lack of time in terms of time-consuming overall implementation, the need to divide students into groups, to adjust the schedule and weekly workload of students (all this is problematic due to the amount of other content in the curriculum and the evaluation of work);
- frequent misunderstandings in the team, which is associated with the statutory accompaniment of students, which greatly hinders the implementation of fieldwork;
- lack of motivation of students in the field or more difficult discipline if someone is not interested in the task;
- the problem of lack of equipment or field aids.

Secondary school respondents also understood the shortcomings of fieldwork as obstacles to its implementation, but in addition to the above, they explicitly mentioned the problem of legislation and the feeling that fieldwork (objectively or from outside) is not considered equivalent to other work in the classroom, that it is considered less important (internal grades at the matura, obtained through fieldwork, are usually high due to the commitment of students, but this frequently leads to disapproval and misunderstanding from the other teaching staff). According to secondary school geography teachers, financial difficulties (purchasing aids, sharing hours, transportation) are also an obstacle.

60% of the respondents carry out fieldwork in combination with other subject areas (they mentioned natural sciences, especially biology and history and Slovenian language, as well as construction, tourism and ecology). 40% of the respondents do not have cross-curricular connections, which is more than was observed in the case of primary school, among them one respondent states that he would otherwise like to connect, but colleagues do not want to. With the exception of two respondents, secondary school teachers do not associate with external institutions in the implementation of fieldwork, which is significantly less than in primary school. Among the mentions of the participating institutions, the ones that offer accommodation were mentioned in particular—rural tourism, hotels, huts and centers of school and extracurricular activities (CŠOD). The mention of the Association for Technical Culture of Slovenia, which organizes research camps for students, was interesting.

One of the respondents was of the opinion that it would be great if Slovenia had the opportunity to arrange a geographical polygon, which would combine: the rock composition of the domestic environment, the wider environment related to Slovenia and specialties from around the world; pedological profiles of the domestic environment, the wider environment related to Slovenia and specialties from the world; plant communities of the domestic environment, the wider environment related to Slovenia and specialties from the world, and a climate observatory. Such a training ground would greatly facilitate the implementation of fieldwork for schools. In Slovenia, there is a geographical training ground in Dole near Poljčane, where the emphasis is on the application of geographical knowledge for ecosystem land management in the scope of 1 ha for the purpose of plant self-sufficiency. The polygon accepts study groups of different ages, from the youngest to the elderly (Dole Learning Polygon, 2020).

When reviewing the descriptions of concrete examples of fieldwork, we found that fieldwork is most represented in the first, and especially in the fourth year, which is related to the matura examination and to obtaining a 20% share of the internal exam grade through fieldwork. In the first year, the most frequently mentioned topics were: digging and analysis of soil profile and determining their characteristics, where the set of methods and precision of implementation is higher than in the case of primary school (colour, structure, texture, reaction, moisture); measurement and analysis of physical (most often depth, width, velocity, flow, etc.) and chemical characteristics of water and measurement and comparison of climatic / weather elements. The necessary devices are various reagents and indicators, measuring devices such as hygrometers, barometers, air and water thermometers, anemometers, inclinometers, beakers, measuring tapes, maps. The most common locations are near the school or in the students' home environment. Individual fieldwork lasts from two to four hours. Similar topics were mentioned in the second year, but it can be seen that in some cases the content is more complex than in the first year (e.g., a comprehensive natural and socio-geographical study of the watercourse and its area, including identification of the flora and fauna, economic activities along the watercourse and their impact on the water status, determining the utilization of the watercourse and its potential, micro-relief forms along the watercourse, surveying the population about its relationship to the watercourse, determining geographical names related to the watercourse, etc.) Locations and duration of fieldwork are similar to those in the first year. In the third year, we noticed even more complex vegetation analysis, including inventory and determination of plant species in a small area of the forest or forest edge, determining the influence of soil, climate, relief, waters and humans on the distribution of vegetation, ecological characteristics of the area, making mini herbariums. It was also interesting to find out about the political-geographical field exercise related to civic education, which includes getting to know the Slovenian capital and state and the European institutions in it, as well as interactions with members of parliament. Again, in the third year we can find a similar duration of field exercises—from a few hours to a full day excursion and even several days within the so called research camp that can be conducted as part of secondary school electives. In the graduation year, the content density of fieldwork is the highest: orientation and calculation of distances, study of rock base and surface, drawing relief profile, determining soil properties, measuring climatic elements, studying waters, studying vegetation, counting traffic and making maps of intersections, tourism research, making tourist brochures, getting to know the city center with the help of an application, etc. Field suitcases, various measuring devices, compasses and maps, mobile phones and related applications are used. Fieldwork is often carried out near the school, and occasionally as part of excursions and multi-day group camps, resulting in two school hours to a full day or even several days.

## Conclusion

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Fieldwork as a form of geographical education undoubtedly coincides with current educational contexts that support the authentic experience and active engagement of

students, their multi-sensory and holistic learning. With this form of work, geography also has a high competitive value in the education system. Field methods and contents respond to the modern needs of the individual and the community and support sustainable activities in space. With all of the above, fieldwork is an increasingly important element of education.

Fieldwork has always been an important way of getting to know and exploring the landscape in Slovene geography, which was also reflected in the educational system. Nevertheless, it was not officially included in curricular documents until 1998 (Lipovšek, 2016). The analysis of the currently valid syllabuses for primary schools and different directions of secondary schools shows that the design of general and stage or guidance objectives are so broad that they allow the inclusion of substantively and methodologically diverse fieldwork and excursions. The latter is directly defined and suggested in all syllabuses, which is an important basis for teachers to realize lessons outside of school.

In addition to direct geography lessons and excursions, there is room for the realization of fieldwork in schools in Slovenia also within the so called days of activities. The curriculum of the primary school annually includes four cultural days, three science, three technical days and five sports days (Primary curriculum, 2020). In addition, or as a realization of the days of primary school activities, schools also carry out weeks of school in nature in the public institution Center for School and Extracurricular Activities (CŠOD), the basic purpose of which is the promotion of learning in nature (CŠOD, 2020).

Within secondary schools in Slovenia, especially grammar schools, the matura exam is an important incentive for fieldwork, as it includes 20% of the internal exam grade obtained through fieldwork. Geographical competitions for pupils and students, which consist of theoretical and fieldwork, also have an obvious influence on the implementation of geographical fieldwork. It should be added that only students who choose geography as a subject at the matura take part in the matura fieldwork, and geographical competitions reach only a minority of students or students who attend based on their interest and mentor engagement.

Tertiary education, the goals and contents of study programs that educate future geography teachers, play an extremely important role in creating the basis for fieldwork in schools. The latter and the implementation experience of fieldwork that teachers gain in the process of their own education are the basis for their later work in practice. Only 60% of Slovenian geography teachers are of the opinion that they were sufficiently acquainted with fieldwork in the framework of university education. Nevertheless, they undoubtedly perceive various advantages and positive effects of fieldwork. Most often, they point out that fieldwork enables the connection of "theory with practice" through genuine contact with the landscape, which increases the perception of the useful value of knowledge, deepens it and makes it meaningful. It enables physical and mental activity and the development of several competencies (from spatial orientation to social competencies and handling various aids). At the same time, it has a positive effect on the motivation of pupils and students.

Unfortunately, geography teachers also face several obstacles in organizing and carrying out fieldwork, which means that there is less fieldwork in Slovenian schools than there could be. Podobnik (2011, as cited in Lipovšek, 2016) states why teachers avoid fieldwork:

- they feel insecure, thinking that they are insufficiently trained to prepare and carry out fieldwork;
- they doubt the effectiveness of fieldwork;
- they question the rationality of fieldwork, which requires a lot of time and material resources;
- they are in a dilemma which types of tasks in fieldwork are best supported or implement the syllabus;
- they feel that they are not able to relate sufficiently to the content and knowledge of other subjects;
- they ask how to develop general, sustainable, transferable lifelong knowledge through fieldwork;
- they do not have developed evaluation criteria;
- they do not have enough useful professional materials for the preparation of fieldwork.

In our research, at both levels of education, three key objective obstacles to the implementation of fieldwork were identified, namely:

- waste of time (which is related to the need for the implementation of a comprehensive syllabus, the nature of fieldwork, as well as the logistics of implementation, as it is necessary to organize the schedule, field attendants and find substitute teachers for their hours, etc.);
- administrative barriers (due to the norm of conducting classes outside the school, larger groups require additional accompaniment as well as the preparation of a safety plan, implementation adjustments in the team);
- financial barriers (transport, purchase of appropriate field equipment).

Regardless of this, geographical fieldwork is present in Slovenian schools. Shorter fieldwork is less common in primary schools than in grammar schools, where it is encouraged in particular by the matura exam. The reality is also the annual primary school interdisciplinary excursions to various Slovenian regions, which are usually fewer in secondary schools, but here are also organized outside the country. The content of field exercises as well as methodological approaches could be more diverse, so we believe that the Learning through Interdisciplinary Field Education project can be an important contribution in this area, which can also contribute to proposals that would facilitate the organization of fieldwork.

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