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Education of future geography teachers in Slovenia

Abstract

This paper presents the development of the didactics of geography at the Department of Geography, Faculty of Arts, University of Ljubljana from its beginnings in the 19th century up to the present day. Important milestones are discussed and the present situation described. The author first discusses how different approaches were developed over the years, then focuses on the current situation through the presentation of some selected ways of educating, equipping and developing a good (future) geography teacher.

Key words: didactics of geography; education; future geography teacher; geography; Slovenia

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Introduction

In Slovenia, programmes of initial education of teachers are carried out by higher education institutions, which have received appropriate accreditation from the National Agency for Quality in Higher Education (NAKVIS). All programmes must meet the criteria set out in the Criteria for Accreditation of Higher Education Institutions and Study Programmes. The Criteria determine the scope of pedagogical training in the framework of a study programme, which is evaluated with at least 60 credit points (ECTS) and must include: pedagogical and psychological knowledge (psychology, pedagogy, didactics, andragogy, methodology of pedagogical research); social and humanistic knowledge (philosophy, sociology, anthropology, etc.); subject or special didactics in connection with the chosen field of study (e.g. geography, history, biology, mathematics etc.) and at least 15 credits from pedagogical practice (Merila za akreditacijo ..., 2017).

School legislation defines the general educational conditions that must be met by teachers. By law teachers must have appropriate professional knowledge, while

the content is defined autonomously by higher education institutions. Accordingly, teachers in the first five grades of primary school are only educated at pedagogical faculties, while teachers in the sixth to ninth grades of primary school and secondary schools teachers are educated at non-pedagogical faculties which offer a Pedagogical module (programme) of 60 credits. All need to obtain a Master's degree.

The paper aims to present the development of the didactics of geography at the Department of Geography, Faculty of Arts, University of Ljubljana from its beginning until today with the special emphasis on the changes caused by the Bologna reform.

The development of slovenian school geography

Geography has always been one of the basic school subjects at primary and secondary level, and in this respect, the educational role of geography remains irreplaceable (Klemenčič, Drozg, 2005). Nowadays, geography is included in primary school from the sixth to the ninth grade as a compulsory and independent subject with a varying number of hours per year, and in gymnasias from the first to the third years, with an additional fourth year for students choosing to take the *matura* (school-leaving) exam in geography. At the various levels of vocational and secondary schools it exists as an independent subject (lasting from one to two years), or as a part of the subject of social sciences, which includes geographical, historical and sociological content, and most often lasts one year. The importance of geography as a school subject is clearly explained in the Primary School Geography Curriculum, which states that geography “[...] is placed in the primary school program in such a way as to help the learner acquire knowledge, abilities and skills with which he/she can orientate and understand the local as well as wider living environment. It cultivates in the learner a proper appreciation and respect for the environment, in the course of which he/she builds a relationship with nature, himself/herself, fellow humans and society. Geographical knowledge is an integral part of basic education, because it contains knowledge of the homeland and the world, the protection of the environment and its rational management. For this reason, this knowledge is indispensable to every young person for further education, successful pursuit of a profession and the promotion of lifelong learning” (Kolnik et al., 2011: 4). Nevertheless, geographical science often had to and still has to justify the necessary presence of geography in the Slovenian educational system.

Table 1 shows the number of hours and content involving geography in primary school and secondary school curricula after the last curriculum revision, which took place at the national level between 2007 and 2008.

Table 1: Hourly and content integration of geography in primary school and secondary school curricula

SCHOOL	YEAR	CONTENT	NUMBER OF HOURS
PRIMARY SCHOOL	6th	The planet Earth	35
	7th	Europe and Asia	70
	8th	Africa, Australia and Oceania, America and polar regions	52.5
	9th	Slovenia	64

GYMNASIUM (general, classical, economic) (GENERAL SECONDARY EDUCATION)	1st	General geography	70
	2nd	Geography of the World	70
	3rd	Europe and Slovenia	70
	4th – if student chooses geography for the matura course	Slovenia, additional optional content and fieldwork	105
PROFESSIONAL SECONDARY EDUCATION	1st/2nd	People and landscape (at least 1/4 of the scheduled hours) Regional diversity of Slovenia (at least 1/6 of the scheduled hours) Slovenia in Europe and the world (at least 1/8 of the scheduled hours) The modern world and the geographical processes in it (at least 1/4 of the scheduled hours)	105 – 140
SHORT-TERM VOCATIONAL EDUCATION	Social sciences and natural sciences	Getting to know the landscape Use of maps and information technology Slovenia and its position in the European Union World problems Human attitude toward the environment and the consequences of human intervention	A total of 248 hours; of which social sciences content is 155 hours and natural sciences 93 hours.
VOCATIONAL SECONDARY EDUCATION	1st/2nd Social sciences	Domestic and global space The world at a crossroads Human attitude toward the environment and the consequences of human intervention	66 + 66
TECHNICAL SECONDARY EDUCATION		People and landscape Regional diversity of Slovenia Slovenia in Europe and the world The contemporary world and its geographical processes	68
	optional	Economic geography Geographical processes in Slovenia and the European Union Applied and entrepreneurial aspects of geography in the future profession	An additional 68 hours

Development of geography didactics at the university level and the training of future geography teachers in Slovenia

In Slovenia, the didactics of geography as an academic discipline has a relatively long and rich tradition. Fran Orožen's book on the methodology of teaching geography dates back to 1891, while the first Slovenian geography textbooks and lessons appeared in the middle of the 19th century. Reflections by one of Slovenia's greatest cartographers, Blaž Kocen, supported by research findings, are also part of the professional efforts for modern geography teaching. "*The history of geography teaching in the Slovenian language and didactic reflections on the method of carrying out this lesson therefore has an almost 170-year tradition, counting from the year of the publication of Kozler's Brief Slovenian Geography and Review (1854), although geography as a school subject has been rooted in Slovenian territory for more than 400 years*" (Kunaver, 1989: 41).

The didactics of geography was taught for the first time at the Department of Geography of the University of Ljubljana in the academic year 1957/58 as an independent subject under the name Methodology of Geography Teaching. Over the years, both lecturers and the number of hours of lectures, seminars and exercises have been changing. As a university subject the didactics of geography developed gradually. In spite of occasional stagnation, a gradual and ever stronger reliance and connection has developed between the didactics of geography and the science of geography, especially since the 1970s. The didactics of geography was increasingly less frequently met with the simplified thought that this was not a scientific discipline, but only a technique, craft or the skill of teaching or transferring simplified scientific knowledge to schools. Work in this area was unintentionally considered to be something less valuable and less important. Jakob Medved concluded that the intermediate position of the didactics of geography between geographical science and general didactics and unclear views on both the subject and the content and field of research of the didactics of geography were the main reasons for "[...] the problems that prevent the didactics of geography in Slovenia from developing as an independent science [...]" (Medved, 1973: 37; Kunaver, 1989: 42).

Significant changes were made to the university subject Didactics of Geography in 1986 when Jurij Kunaver became the first full-time professor in this field at the Department of Geography of the Faculty of Arts at the University of Ljubljana. After this year, the first diploma, master's and doctoral theses dealing with the didactics of geography were written, and the first Slovenian journal whose content was directly related to the field of didactics of geography, *Geography at School*, was published (Kunaver, 1989: 5). Before the Bologna reform, the content of materials for the didactics of geography was taught over three semesters, i.e. until the beginning of the summer semester in the 4th year. There were lectures on primary school didactics of geography in the fifth semester and on secondary school didactics of geography in the seventh semester. In between, there were theoretical and practical exercises. The program also envisaged a week of pre-service teaching in a primary school in the third year and a week in a secondary school in the fourth year.

After the Bologna reform, the didactics of geography was further developed and expanded. In the 2012/13 academic year in the first year of the master's pedagogical two-course study program geography students attended *Didactics of Geography*

I and a new subject *Organizing and Carrying Out Excursions and Fieldwork*. In the second year of the Bologna master's program, students then attended lectures from *Didactics of Geography II*. As a new subject, the subject *Pedagogical Practice* was added. All of the above-mentioned refers to the field of specialized didactics, that is, the didactics of geography, but it should be noted that students from the first year of the second level also attend the joint part of the pedagogical module, which includes common general subjects such as *Psychology for Teachers*, *Pedagogy – The Theory of Education and Andragogy*, and *General Didactics*, as well as undertake observational practice, and at the same time choose among the three optional subjects offered (*Slovene for Teachers*, *Study of the Learning Process*, *Humanities and Social Sciences*) (*Predstavitveni zbornik ...*, 2014). Today, the relationship between general didactics and the didactics of geography is based on the fact that the didactics of geography uses knowledge, including pedagogical, from general pedagogical and didactic principles, while the content, internal logic and a special didactic approach, together with all the specifics, are derived from modern geographical science.



Photo 1: Workshop on the values of space in the framework of the didactics of geography 2016/17

Photo by T. Resnik Planinc

In the 2016/17 academic year minor changes occurred within the geographical part of the entire Pedagogical Module, which amounts to 60 credits (ECTS). The implementation of all courses in the Pedagogical Module is expected to take place as of the 2018/2019 academic year, as described in Tables 2, 3 and 4.

Table 2: Mandatory general subjects

Subject	ECTS
Psychology for Teachers *	7*
General Didactics*	5*

Pedagogy - Theory of Education and Andragogy*	6*
Observational practice (as part of Psychology for Teachers or Pedagogy - Theory of Education and Andragogy or General Didactics)*	2*
Slovene for Teachers *	4*
Study of the Learning Process *	4*
Humanities and Social Sciences*	4*
Didactics of Geography I (15 hours lecture + 30 hours seminar + 30 hours exercises = 75 hours)	6
Didactics of Geography II (15 hours lecture + 30 hours seminar = 45 hours)	4
Pedagogical Practice – Geography (15 hours seminar + 60 hours of practical work= 75 hours)	6
Master's Thesis	9

* half of the obligations from the common part of the pedagogical module belong to geography

Table 3: Compulsory professional subjects

Subject	ECTS
Reading and Interpreting English Professional Texts for Geographers 2	3
Organizing and Carrying Out Excursions and Fieldwork (15 hours seminar +30 hours fieldwork = 45 hours)	4

Table 4: Professional elective subjects (regional-geographical)

Subject	ECTS
Geography of Asia	4
Geography of North Africa and SW Asia	4
Geography of Latin America	4
Geography of North America	4
Geography of Sub-Saharan Africa	4
Geography of Australia and Oceania	4

* The student chooses the remaining four of the six professional elective subjects (regional geographical; he/she has already selected two at the first level) and fulfills the requirements.

The student can choose external elective subjects in the total amount of 4 ECTS. Students are recommended to select subjects from fields that complement the knowledge and skills acquired in basic and methodological subjects. Due to mobility, the student has the opportunity to transfer 15 ECTS from compulsory or elective units of the program from geography study programs that are conducted at other universities.

The introduction of a compulsory Pedagogical module (programme) resulted in great progress in the unification of special didactics of different disciplines and in achieving comparable standards of knowledge and skills of the teaching staff. However, it is not possible to deny certain negative consequences of its implementation. It is becoming more and more obvious that the general part of the Pedagogical module dictates and limits the work of special didactics, which receive rather small proportion of credit points (see Table 2). Consequently, students do not acquire as much special didactic knowledge and other discipline knowledge as they would like or need. In the near future, we will certainly need to tackle these new dilemmas.

To conclude, school geography and its didactics will always need support and understanding of the widest circle of geographical experts as well as geographical institutions. School geography must develop organically alongside geographical science because it is its most common and widespread application in practice. School geography has always been and will be a mirror of geography as a whole.

Pedagogical and research work in the field of didactics of geography

The earliest diploma theses, which included a didactic-geographical analysis, were written in 1990, and over the last twenty years they have (together with the new Bologna master's thesis) exceeded 140 in number. Some of them originated in co-mentorship, either with colleagues from the Department of Geography, or from other departments of the UL Faculty of Arts. A number of research-based master's theses (12) and doctoral theses (7) were also written in the field of the didactics of geography.

In 1998, the Association of Teachers of Geography of Slovenia was founded to a large extent on the initiative of the Didactics section of the Department of Geography, which, through its camps for teachers, workshops and seminars, is also involved in the continued professional development of teachers of geography in Slovenia.

For the continuing education of geography teachers, the Department of Geography endeavored to organize various periodic seminars for teachers. In 1987, we established Ilešič's Days, which continue to be an opportunity to exchange experiences among teachers, socialize and promote cooperation and solidarity. In addition, international activity is also very productive, including international meetings, conferences and projects.

For more than thirty years, the field of the didactics of geography has been intensively involved in project and research work in the field of education both at home and abroad. Professors and assistants are also involved in the bodies of the Ministry of Education, Science and Sport, the Institute of the Republic of Slovenia for Education, as well as in various domestic and foreign societies and commissions related to the field of education. Many domestic and foreign projects, which have been co-ordinated or chaired by them for many years, touch on a number of areas, among which topics such as the values of space, different identities, landscape imagination, boundaries and memory, sustainable mobility, cloud school, information and communication technology, and education about and through mountains should be mentioned.

Integration of didactics of geography into geographical project workshops and programs at all levels of education

Within the framework of the *Didactics of Geography I*, *Didactics of Geography II*, *Organizing and Carrying Out Fieldwork* and *Pedagogical Practice*, students in the first and second years of the master's two-course study program in Geography acquire theoretical and practical knowledge and competencies in teaching geography at all levels of education. Despite the fact that the study is devoted to the education of

future teachers at primary and secondary level, geography workshops have been conducted in the last three years. Geography lectures were prepared in an innovative way, mostly outside lecture rooms and classrooms, carried out at all three levels – in preschool, primary school and secondary school. The examples presented are an overview of how teachers and educators outside the (geography) classroom can provide geographical knowledge as well as how we can carry out cross-curricular lessons in project workshops. In this way geography is also taught in a slightly different way, through the implementation of project days at all levels of education. It is an example of how we can approach project workshops for children and young people and show some geographical processes and phenomena in way that is more explicit.

Through the workshops, we wanted to show how students could use the knowledge gained during their studies in geography in their further professional development and in their careers. With such workshops, students gain new insights into the work of a geography teacher, become acquainted with new, different ways of work and gain experience they can use in their further professional career. Finally, the workshops and programs presented can be examples of good practice, showing how we can effectively participate and transfer professional knowledge and methods of work between university and preschool, primary and secondary schools.

Geographical project workshop in preschool

A geography workshop conducted in May 2016 at a preschool in Ljubljana was called *Let's Meet Our Wonderful Planet!* The main goal was to introduce some selected geographical content to young children aged between three and six and show them how is integrated into our everyday life. The workshop included active methods of work because we wanted children to learn about the diversity of our planet Earth through various experiments, demonstrations, manual dexterity tasks, role plays, etc. To make the process interesting and highly motivating we designed the workshop in the form of finding a hidden treasure. From the very beginning to the end of the workshop, the children were looking for hidden treasure from various stations that were arranged on the external premises of the preschool. The workshop was also designed in accordance with 1) the motto of the preschool "I admire, I love and protect", 2) the preschool curriculum, which includes activities such as movement, language, art, society, nature and mathematics (Bahovec et al., 1999) and 3) some global and operational goals from the curriculum for Environmental Learning, which also includes some geographical content (Kolar, Krnel, Velkavrh, 2011).

Accordingly, the following topics were presented:

- Europe: Learning about the European Union through cartoon characters
- Asia: Learning about rice and tea production in rice fields
- North America: Learning about the volcanic eruption of Mt. St. Helens
- South America: Learning about the Brazilian Carnival
- Antarctica: Learning about the fish and whales of the Southern Ocean
- Africa: Through the tropical rainforest to the desert
- Australia: Specialized features of the animals and life of the indigenous people in Australia.

A geographical project workshop in primary school. The primary school geographical project workshop was the first of its kind. It was organized and carried out with the students in May 2017 on the external premises of a primary school in Ljubljana. We decided to conduct a geography workshop for several reasons. Through the geography workshops, we wanted to offer our students additional practical teaching experience, which is difficult to gain during the university course due to the limitations of the study program (the program is on the one hand limited by the number of credits, while on the other it does not provide practical training of our students with younger groups of pupils). Additionally, our students also gained the experience of organizing and managing geography workshops or/and project work, which is an important part of a teacher's professional work at all levels of education.

In the workshop, the geographical content was combined with the content of different subjects such as Environmental Learning, Slovene, Mathematics and Fine Arts. Using the outdoor premises of the school has some elements of outdoor learning while the different organization of space (outdoor areas) and the interactive methods and forms of work increases pupils' motivation to learn and can also contribute to the retention of knowledge. The content of the curriculum of the school subject Environmental Learning in the first three classes of primary school envisages the following thematic areas: time, space, substance, force and movement, phenomena, living beings, human being, I, communities, relationships, traffic and environmental education. In consideration of this content, we organized cross-curricular workshops based on these thematic areas. Over ten thematically different stations, 150 pupils with the help of 22 students learned about broader geographical content through games, experiments, demonstrations, role plays and creative workshops. The students prepared ten thematic workshops as follows:

- TIME – *Where and when did the dinosaurs live?*
- SPACE – *Slovenia on two floors?*
- PHENOMENA, SUBSTANCES, FORCES – *How and why do volcanoes erupt?*
- LIVING CREATURES – *How diverse and different is life in a tropical rainforest and in a desert?*
- HUMANS – *How similar and at the same time different are we?*
- COMMUNITY – *Who lives in the European Union?*
- I – *What would my life be like if I were born in Asia?*
- RELATIONSHIPS – *Although we are different, we can live in harmony.*
- TRAFFIC – *What are the safe ways to go to school?*
- ENVIRONMENTAL EDUCATION – *Where and why are glaciers melting?*

Geographical project programs in high school

As part of the *Organizing and Carrying Out Excursions and Fieldwork* course, students learned about the organizational, didactic and content design of fieldwork in geography, as fieldwork and excursions are part of the compulsory curricula in the secondary school geography curricula. During the lectures, students learn the theoretical fundamentals of organizing, conceiving and managing active methods of work, while through practical exercises they acquire practical experience. Since 2008, we have been organizing and conducting one-day physical geography

fieldwork exercises for students from one of Ljubljana's gymnasias. In 2017, we organized and carried out a geographical project week for one of the technical secondary schools in Ljubljana.

Physical geography fieldwork

Each year fieldwork covers content from hydrogeography, geomorphology and geology, pedogeography, biogeography and orientation. The prime purpose is to train secondary school students in geographical methods of fieldwork, to help them understand certain physical geographical phenomena in the landscape, to refresh already acquired knowledge and to teach them causal and consequential connections in the landscape. Such fieldwork exercises are also without a doubt important practical experience for future teachers.

The fieldwork exercises are prepared during lectures and exercises of the subject in question and followed by individual and group fieldwork of the students on the site, which enables a good knowledge of the landscape, testing of field methods of work and the performance of selected measurements. For fieldwork, each group of students creates a learning sheet that assigns tasks for each content area. For the students this kind of fieldwork with secondary school students is the first practical experience with fieldwork. As part of the exercises, each student independently leads a group of secondary school pupils at the selected content site.



Photo 2: Measurement of the characteristics of the Črnušnjica stream

Photo by T. Resnik Planinc

Geographical Project Week

The purpose of geographical project week, conducted in one of the technical secondary schools in Ljubljana, was to study and get to know the Slovenian region of Prekmurje. On the first day of the project week students organized and carried out a full day excursion to Prekmurje for 200 students of the school mentioned. In order to facilitate the organization and implementation of the excursion, we planned five different routes across Prekmurje, each of which was designed with a different subject-specific emphasis. The purpose of the excursion was to bring students to a part of Slovenia that most of them had not visited before. All five routes were organized and guided by five groups of geography students, accompanied by secondary school teachers. The task of the secondary school students was to participate in active methods of excursion work, actively monitor the presentations of local guides and obtain as much information as possible for further work at the workshops of the project week. The excursion to Prekmurje gave students some basic knowledge needed for the continuation of the project week, since in the remaining days, under the mentorship and leadership of our students some of the highlighted topics of Prekmurje were discussed in detail in the form of workshops:

- Vinarium – recognizable architectural element of Prekmurje
- Pannonian house and Pannonian village
- Bilingualism in Prekmurje
- Judaism in Prekmurje
- From a pumpkin field to pumpkin oil
- Shipping and damming on the Mura River
- Volcanism in Prekmurje
- Domestic crafts
- Castle in Goričko
- Evangelical Church
- Straw hats production

Within each two-day workshop, the group of secondary school students prepared a presentation of a topic (some of the topics presented above were repeated), a model of one product and a presentation. On the last day of the project week, an assessment of the students' knowledge of Prekmurje was conducted. Secondary school students received grades from Geography, Slovene and Fine Arts. The project week conducted can be an example of good practice (interdisciplinary approach, preparation of a project week, organization of an excursion, etc.).

The geographical workshops and programs presented represent an important supplement to the program of the master's two-course study program Geography. At the same time, they offer additional practical experience to former geography students while also being examples of good practices that can be implemented in different tertiary study courses or preschool, primary and secondary school programs.

Conclusion

The didactics of geography is an area that has been developing and growing over the decades. In sometimes difficult circumstances, it was pushed forward by the passion

of its practitioners and their profound belief in its significance in order to prepare students for their future profession as well as for the development and growth of modern geography education.

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