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Geographers for Geography – learning by doing

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Abstract

The Department of Geography of the University of Zadar – in conjunction with the Croatian Geographical society – is engaging geography students and geography teachers in different activities with the aim of enhancing the level of geographical literacy. Among numerous activities such as field trips, lectures, seminars, workshops, for the purpose of this paper one will be analysed. It is entitled Small Geographers, consisting of monthly workshops for primary school pupils in Zadar County. The workshops are organized in the main city library and its branches and/or in primary schools so as many children as possible can participate. All those who register online can participate. Geography teachers and students and voluntary workers prepare different workshops, which so far have dealt with different topics and motive-related contents such as how to recycle and why, what the shape of the Earth is, karst modelling, water pollution, mapmaking, etc. Each topic is related to everyday life and includes active learning by doing.
The purpose of this article is to present possibilities of additional learning and teaching geography through workshops organised for school pupils.

Keywords: Education, Geography, Learning, Workshop

1. Introduction

The Croatian educational system is currently going through a series of changes. The priority issues, as defined by the Ministry of Science and Education, are: changing the content of teaching and supporting the shift from presentation-recitation models of instruction towards active, productive learning that is essential in a knowledge-based society and an innovation-driven economic growth; improving the knowledge, skills and working conditions of teachers so that they are able to lead the change in their schools and classrooms; strengthening education management and school leadership by creating systematic arrangements for professional development and monitoring the educational processes and outcomes; harmonizing education system regulations and programs with the requirements of the European Union; emphasizing the principles of lifelong learning at all levels of education, including raising the rate of adult literacy through specific interventions (Strategy of Education, Science and Technology, 2014).

In order to achieve all the goals, new curriculums for all subjects were written. The aims set within the new Geography curriculum are: development of geographical literacy (geographical knowledge and skills and positive ethical attitudes), active inclusion of citizens in the formation of functional spatial organization on different levels (from local to global), citizens are members of a community, aware of their responsibilities towards other people and nature, and respect towards the principles of sustainable development (National curriculum for Geography as a school subject for primary schools and gymnasium in the Republic of Croatia, 2019).

The key role of geographical education in the Republic of Croatia, but also other countries where geography is a compulsory or optional subject in primary and/or secondary schools, is to teach pupils how to assess current distribution and interactions between the physical and cultural features of the Earth's surface. Geography is one of the compulsory subjects to be found in four years of obligatory schooling in primary school and afterwards in secondary schools depending on the type of school. After compulsory primary education, around 85% of all pupils continue their secondary education, and 30% of them enrol in gymnasium programs where geography is an obligatory subject with 274 lessons (Vuk et al., 2017). Geography is taught also through Science and Social Studies as an integrative subject in lower classes of primary education (from 1st to 4th grade). The teaching of this subject comprises diverse contents on subjects like Natural sciences, Geography, History, Sociology, Economics, Culture and the content of special education areas (education for environment and sustainable development, education for democratic citizenship, transportation, health education) (Braičić et al., 2014). Besides, it has to be stressed that it is not only about knowledge, but about raising the "knowledge potential" of individuals, which means their ability to know and look for that knowledge useful to solve a problem (Caruso, 2015). Therefore, we have to bear in mind that Geography education has a greater ability than other school subjects to help students to think in relations, systems and scenarios and how they work differently in different natural and cultural contexts (Van der Schee, 2016). Such initiatives can be seen as a strategy for promoting geographical culture among young people, which is one of the main goals in the new Geography curriculum in Croatian schools.

2. The role of the CGS – Zadar in promoting Geography education

The Department of Geography of the University of Zadar in conjunction with the Croatian Geographical Society – Zadar (CGS – Zadar) engages geography students and teachers in different activities with the aim of enhancing the level of geographical literacy. CGS – Zadar is a non-profit organization founded in 1989 with the aim to promote geography and other related disciplines. The Society gathers together numerous professors, students and pupils living both in Zadar County as well as in other parts of the Republic of Croatia. The Society is engaged in the organization of lectures, conferences and field trips for members but also for the wider community. One of its most important tasks is the publishing of the scientific journal Geoadria, a scientific journal issued by the CGS – Zadar and Department of Geography University of Zadar. It was first issued in 1996 and until 2001 it was published annually. Since 2002 it has been published biannually. All papers in the journal have been published in Croatian and English since 2006. Geoadria primarily publishes the research results about the Croatian littoral area and Croatia in general, along with the research results of different geographic and geography-related scientific disciplines dealing with the Adriatic area, the Mediterranean and Europe.

One of the "new" activities carried out by the Society members is entitled Small Geographers, monthly workshops for primary school pupils in Zadar County. The idea came both from the Society and Zadar City library. On the one hand, the Society wanted to popularize geography among the young from the very beginning of their formal education. For geography, learning to learn space must start in the very first years of school (Pasquinelli d'Allegra, 2017). That is one of the reasons why workshops were mainly

targeted at primary school pupils. On the other hand, the Library wanted to have diverse educational activities for its users, especially for the young ones. Therefore, both needed new public activity to fulfil their goals: to enhance the level of geographical literacy and promote science among the young, to promote active learning, active participation and involvement.

3. Small Geographers

In recent years, by analysing education and teaching methods in Croatian schools, it has been noticed that active learning is still not used often enough. The main goal of this activity was to inspire the curiosity among young people towards learning from the real world. It is also one of the goals of educational reform in the Croatian educational system, the so-called *School for life*. New national curriculum documents indicate that the educational system needed a new, enquiry approach. The emphasis is on active learning and active teaching where pupils are involved in the process of cognition and learning by doing. As for Geography, geographers should put human beings in relation to their geographical environment to better understand modern processes and issues. This can relate to constructivism, a theory based on an attitude that knowledge comes from pupils' interaction in the real world with a certain sociocultural context (Jukić, 2013).

In order to understand the position and role of geography, Curić et al. (2007) carried out some research on eleven different European Geography curricula. In eight countries geography is placed both in the natural sciences and social areas. In Sweden and Germany, it is only in the social area, while in Finland it is only in the area of natural sciences. In Croatia Geography as a scientific discipline is an interdisciplinary scientific field. This is the reason why its concepts are formed in relation to different macro-concepts of different natural, social and humanistic fields. Learning and teaching Geography is based on four key concepts: spatial identity, spatial organization and processes, sustainability and spatial coverage with integrative character (National curriculum for Geography as a school subject for primary schools and gymnasium in the Republic of Croatia, 2019).

With regard to the above, the idea was to activate school teachers, university professors and geography students to organize workshops on different topics and motive-related content depending on interesting recent themes and problems of our community and the global world. Each topic is related to everyday life and includes active learning by doing. The idea was to prepare workshops in library branches and primary schools in rural communities since it has been observed that the majority of the education motivated events take place in urban centres. Differences in pupils' success and achievements at school depend on numerous predictors. The survey on the success of Croatian primary schools, based on different parametrics like the number of pupils in the classrooms, status of the schools, attribute of school leadership, attribute and circumstances of the programs as well as school climate indicate that most of the indicators are those in correlation with school status. Most of the characteristics relating to basic administrative and status determinants of school functioning have the greatest predictive strength (Babarović et al., 2009). There are also significant differences between schools situated in urban and rural areas in a way that schools in socio-economically more developed areas are more successful than schools in less developed areas (Burušić et al., 2013; Burušić, 2019).

Workshops were organized in cooperation with primary schools, either with teachers directly or with children being able to register directly by using an online application form. So far, different topics have been presented, for example: what the shape of the planet Earth is, how to recycle and why, water pollution, Karst modelling, relief mapping, colours of national flags, scents and flavours of big geographical discoveries etc. The underlying idea was to present a series of interdisciplinary topics incorporated into the geography curriculum but also in curricula of different school subjects such as History, Mathematics, Chemistry, Physics, etc. Topics are connecting and integrating elements from both the natural and social sciences. Peaceful cohabitation, economic

development, population growth and sustainable healthy environment are an integral part of the "magic square" within contemporary geography teaching (Kroβ, 1995). Geography lessons need to address all the above in order to ensure that pupils can primarily understand what sustainable development is and afterwards be given the right knowledge to be able to achieve it. The main goal of all activities performed by CGS – Zadar is to encourage pupils to observe, analyse, question and judge the world surrounding them and afterwards plan future sustainable development, because Geography education is in an excellent position to offer this knowledge and involvement (Van der Schee, 2016). That is why workshops, as a methodological framework, have been used as a form of active learning and the interaction of teacher-pupil situations will encourage pupils to observe, revolve and conclude.

4. Discussion

In times of significant changes in the Croatian national education system and the implementation of comprehensive curriculum reform everyone is confronted with great challenges. The curriculum reform encourages new learning methods and the transformation of traditional ones in research, problem and project learning. One of the ways to improve pupils' achievements is to put them more often at the centre of the learning process as active and not passive observers, as has very often been the case so far. Despite the broad range of possibilities for teaching Natural Sciences, Geography or History, methods encouraging research and experiential learning are underrepresented in the classroom (Braičić et al., 2015). New learning methods are not always easily implemented in both the teaching and learning processes since they demand more work from both pupils and teachers. Active learning always needs to be accompanied by pupils' interaction and also pupils and teacher interaction through the exchange of questions and ideas. While organizing teaching, there are always three basic activities - research, creation and the presentation of the content. Very often the teacher's creativity and pupils' interest are enough for the creation of a successful teaching process. For this particular workshop we chose to introduce one with not such a familiar, everyday topic, in the form of making charts and mapping relief. Like the 2016 Charter said, Geography helps people to understand and appreciate how places and landscapes are formed, how people and environments interact and that was the final aim of many more workshops to come. In particular, this was the introduction to the concept of territorial value. Territorial value can be referred to the identity and the sense of the place, but also to an element that connotes an aspect of the environment, the economy, culture, history and society (Dematteis and Giorda, 2013 in Giorda and Pettenati, 2018). As the problem of depopulation is immanent in the whole Croatia, especially in rural areas, it was like a starting point within the bigger topic of rural spatial values. This particular village is situated in the most fertile subregion of Dalmatia's hinterland, Ravni kotari.

This learning activity was performed in a small school in the village of Lišane Ostrovičke, situated in a rural area, approximately 50 km from Zadar. All pupils from 4^{th,} 5th, 6th, 7th and 8th class participated in the workshops guided by 3 geography teachers, one from the Department of Geography of the University of Zadar and two from primary schools in Zadar County (one of them working in the school where the workshop took place). The workshop was entitled *Colours of relief*. As the use of maps in school is very important in all the subjects in which location is a key component and in order to build a problem-based education (Kerski, 2013) we decided to perform a workshop centred on a thematic map. In the preparation phase we discussed possible themes with the geography teacher in the school and decided to deal with maps as the representation of geographical reality. Very often pupils do not know how to use maps correctly and are not acquainted with the process of their formation. The goal of this workshop was for the pupils to learn how to create and use hypsometric maps.

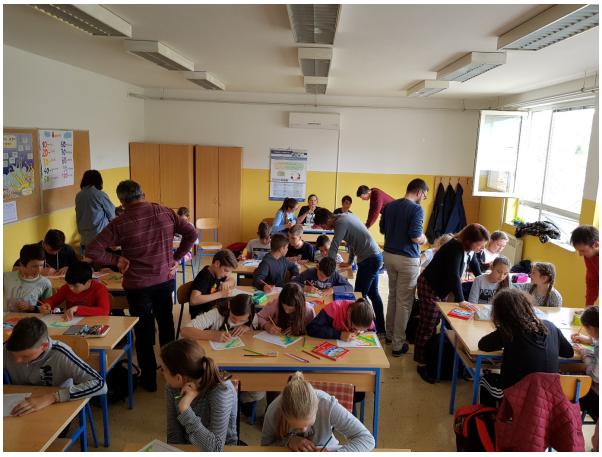

Figure 1. Atmosphere in the classroom.

In fact, one of the very important competences for pupils learning geography is cartographic literacy, because students need to be made literate also in the specific lexicon (the specific cartographic code) (Pasquinelli d'Allegra, 2017).

In this workshop, the learning outcome for the lower grades (4th and 5th) was to differentiate colour scale according to hypsometric classes and for the higher grades (6th, 7th and 8th) the outcome was to illustrate and differentiate classes on a hypsometric map, explain and differentiate elevation classes on hypsometric maps according to their features. The driving question was to determine whether every pupil can make a hypsometric map based on the given instructions and analyse it afterwards. It was the first step in getting basic and practical knowledge on the region they live in. The atmosphere in the classroom was positive and the pupils actively participated. During the first part of the class teachers explained the definition of a hypsometric map, their usage, and the ways maps can be created depending on the tools available. Even though nowadays maps are generally created using GIS software in this primary school, as in many others, due to the lack of infrastructure and GIS software, this was not possible. Therefore, teachers agreed that the colouring (blind) of maps was one of the ways in which the lesson outcome could be achieved. During the second part of the class pupils created their own content and afterwards, the last part was to present maps and prepare an exhibition in the school hall. Each part of the lesson was accompanied by a discussion, questions, cooperation between pupils and interaction with teachers.

One week after the workshop a survey was distributed to the pupils who had participated in the activity. The goal of the survey was to determine pupils' perception of the activity and their interest in geography. As this was the first experience for the pupils, the goal was to inquire if they were interested in that kind of learning, in the topic, and if they had achieved new skills. Finally, it was interesting to find out if the workshop raised pupils' interest for geography or for studying geography.

The survey consisted of 10 questions and for each question a Likert questionnaire (1-5 scale) was used. The pupils could choose between the following answers: I completely agree, I agree, neither agree or disagree, I disagree and I completely disagree. When asked if this workshop aroused additional interest for geography all pupils stated I completely agree. When asked if they would like to participate again in a similar activity, the majority of the 4th to 6th grade pupils said they completely agreed while the majority of the 7th and 8th grade pupils said they agreed. Often younger pupils are more willing to participate in additional activities while older ones tend to limit the time they want to spend in school regardless of the positive impact and additional knowledge.

Maps as a tool for teaching have been used since the 4th grade as a subject content of the Science and Social Studies lessons. Working with maps is the second most used teaching method, after conversation when teaching geography topics and fifth when teaching history related content (Braičić et al., 2015). Older pupils already knew how to differentiate types of geographic maps according to content so in a way they have deepened their knowledge while the young ones gained new knowledge. On the question of whether the workshop was fun, all the pupils said they completely agree (Figure 1). The last question was if in the future pupils attending the workshop will study geography. Only 23% said they completely agree. These were children from the age of 10 to 14 and it is normal they still do not know what their point of interest will be in 5 to 10 years depending on the

current age but workshops like this can influence their future education choices.

5. Conclusions

The workshop for primary school pupils in a small rural settlement achieved its purpose. The pupils were interested and stated they would like to do it again. The activity mentioned is in line with the new Geography curriculum and it achieved the expected learning outcome. The education of the (future) geography teachers is very important not only because of the knowledge they will acquire but also because of the empathy/sensibility they will transfer to their pupils in order to encourage them for the whole spectrum of different issues/problems. There is no doubt that nowadays teachers play an important role, especially since pupils face different challenges in the process of obtaining different information. Distinguishing the real world vs. the virtual one is becoming very important because there is an enormous difference between the reality and insubstantiality. To inspire the curiosity among young people towards learning from the real world is one of the goals Geography teachers are trying to achieve.

Therefore, the Society has started new activities to motivate geography teachers and geography students to use different methods in geography teaching, methods that will support research approaches and creativity, all of which should be involved in everyday classes as well as active learning. By choosing specific, contemporary topics they emphasize the importance of active learning. Besides that, those involved in workshops, at the same time members of CGS – Zadar, are becoming active in the local community; they are becoming partners and co-workers, the organizers of extra curriculum activities that make both Geography and the Society even more popular.

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