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Primary School Teachers' Opinions on Teaching the Environmental Studies Subject Outside of the Classroom

Minka KOPRIVNIK, Maja KORBAN-ČRNJAVIČ, Vlasta HUS

minka.koprivnik1@um.si
(University of Maribor, Maribor, Slovenia)

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Abstract: *With the curriculum reform of the basic school in the Republic of Slovenia, the experiential learning and conducting classes outside the classroom become one of the more important starting points for the subject of Environmental Studies, which is taught in the first three years. With the empirical study, we wanted to research which location is most often selected by educators for Environmental Studies outside the classroom, how often they conduct such activities, which work methods they use, how many hours out of total subject hours for Environmental Studies they dedicate to teaching outside the classroom, and in what form they wish to acquire additional knowledge on this subject. We discovered that educators, when teaching the subject of Environmental Studies outside the classroom, most often use an area located in direct vicinity of the school, and that the largest percentage of participants very often teaches the subject of Environmental Studies outside the classroom once per month. Both analyses showed certain statistically significant differences regarding the location of the school and the educator's years of employment. The results showed that educators, when teaching the subject of Environmental Studies outside the classroom, most often use the method of direct observation, while the least used methods are work with texts and learning resources. Predominantly, educators dedicate up to 30% of total planned hours of the subject of Environmental Studies to conducting class outside the classroom. The analysis showed that educators want to obtain additional information, knowledge, and competence for teaching Environmental Studies outside the classroom primarily by examples of good practices.*

Keywords: learning outside of classroom, primary school teachers, experience based learning, environmental education class

Introduction

The subject Environmental Studies in primary schools of the Republic of Slovenia is designed to represent a continuation and orientation of spontaneous childhood exploration of the world and discovery of the interconnectedness of phenomena and processes, both in the natural and social environment. It combines processes, procedures, and content, which we use to learn about the world we live in. At the same time, the subject represents a source of information for learning and reinforcing the ways of obtaining more knowledge and how to integrate and use said knowledge, and is thus one of the foundations of cognitive development during the first three years of basic school (Kolar, Krnel & Velkavrh, 2011). The subject of Environmental Studies during the first three years consists of 315 hours, i.e. 105 hours per school year, 3 hours per week, and 3 days of activities (three times 4 hours) annually (Ivanuš Grmek & Hus, 2006). The updated syllabus includes recommendations for educators to plan the course in such a way to ensure pupils will learn as much as possible with personal experience and consideration of their own experience and ideas. Educators should thus organise the activities as concretely as possible, using exploration and in the immediate surroundings. Such knowledge created from direct experience in the surrounding is shaped, expanded, and deepened during class (Kolar, Krnel & Velkavrh, 2011).

In this case, we're talking about innovative, "live learning", a constructive, experiential learning. All these concepts are characterised by understanding learning as a process of progressive, permanent changing of the individual on the basis of their own experience. This definition is congruent with the syllabus for the subject of Environmental Studies (Hus, 2004).

The concept of experiential learning is wide and complex, and therefore lacks a unified definition. David Kolb, one of the most prominent theoreticians of experiential learning, defines it as learning in which a pupil is in direct contact with reality and the studied phenomenon. He also adds that such learning is a process, wherein knowledge is created with a conversion or transformation of experience acquired by the pupil (Tomić, 2003). Many other theoreticians and researchers (McGill & Weil, 1989; Marentič-Požarnik, 2000; Korban & Hus, 2009, Ivanuš Grmek, Čagran & Sadek, 2009) jointly explain that experiential learning represents a process, wherein individuals are placed in direct, concrete situations, problems, experience, which they think about, evaluate, transform, and strive to integrate the results of these processes into new knowledge. In this regard, all theoreticians and researchers agree that the most important characteristic of experiential learning is pupils' own activity in the exploration and discovery of new things. Active learning and teaching places the emphasis on the pupil – individual and the process conducted, the pupil's understanding and methods of use of knowledge, taking into account the pupils idiosyncrasies. Learning is conducted through active acquisition or upgrade of knowledge, with an emphasis on understanding and use. *Rutar-Ilc* (2003) adds that, using this method of learning, pupils thus get the sense that the knowledge and the method of obtaining said knowledge make sense and have a certain significance for them. *Glogovec and Žagar* (1992) add that such learning with exploration has more advantages when

compared to traditional learning methods. They state that, according to Brunner, learning by discovery increases intellectual potential, children assimilate information in such a way that they can use them in problem solving, that such learning increases the children's internal motivation, that children develop their abilities of exploration and better fill up the assimilated knowledge.

According to the Environmental Studies syllabus and in accordance with the theory of experiential learning, children would thus learn about their surrounding and its features directly in the surrounding: the forest in the forest, the meadow on a meadow, etc. Using other media, we can only partially present nature to pupils, so it is important to orient children towards nature and allow them to create direct experience (Kolar, Krnel & Velkavrh, 2011). *Gilbertson, Bates, McLaughlin and Evert* (2006) explain that learning outside the classroom is more complete than learning conducted in the classroom. Even the exploration on a schoolyard (Blažič, Ivanuš Grmek, Kramar & Strmčnik, 2003) is supposed to have an important pedagogic function, as even the closest natural area outside the classroom allows pupils to perform various learning activities during which they can acquire direct experience.

Numerous teaching methods, with which we look for the best courses and methods for acquiring knowledge, abilities, and habits, are suitable for teaching outside the classroom. We must emphasise that a method by itself does not lead to experiential learning, and that learning must be made experiential. Here, the role of the educator teaching pupils is important. *Zupan* (2005) emphasises that the important teaching methods in conducting class are those that achieve the desired goals on the basis of active pupil participation and the activities in which pupils independently study, observe, measure, count, categorise, collect information, communicate, experiment, take notes, interpret information, and come to conclusions.

Conducting class outside the classroom comes with numerous advantages as well as disadvantages. Some practitioners (Jank & Meyer, 2006) warn that experiential learning can cause restlessness in the daily school routine, requires more time to prepare and repeat than classically conducted class, and is more susceptible for disruptions, as it is far more comprehensive in terms of its organisational structure and goals. It is essential that such teaching is well planned, since a good preparation and planning represent the foundation of a quality learning process (Skribe-Dimec, 2014).

With the study, we wanted to research certain characteristics of conducting class outside the classroom, and examine what educators in the first educational period think about teaching outside the classroom for the subject of Environmental Studies and how they teach. We wished to determine which location is most often selected by educators for Environmental Studies outside the classroom, how often they conduct such activities, which work methods they use, how many hours out of total subject hours for Environmental Studies they dedicate to teaching outside the classroom, and in what form they wish to acquire additional knowledge on this subject. We also wanted to find out whether or not there are any differences of opinion of educators based on the location of the school and their years of employment.

Methodology

The study was based on a descriptive and causal non-experimental method of empirical pedagogical research. The sample consisted of 233 educators who taught in the first educational period (first to third grade) in the 2012/13 school year of basic school. 59.7% of educators were from rural school, and slight less from urban schools (40.3%). The majority of educators had 11 to 20 years of employment (40.8%) and over 20 years of employment (40.8%), while only 18.5% of educators had less than 10 years of employment.

To obtain the data, we used a questionnaire that included both closed-type and open-type questions and a 4-rank descriptive rating scale. Data was gathered in May and June of 2013.

The data was analysed using the SPSS statistics software, using the frequency distributions (f, f %) of responses, arithmetic means ($\bar{x}$), rank average ($\overline{R}$), and nonparametric tests (χ^2-test, Mann–Whitney U test, Kruskal–Wallis test).

Results

We first examined which type of location educators in the first educational period choose most often and for teaching the subject of Environmental Studies and how often.

Table 1. Number (f) and percentage (f%) of participants by frequency of selected location for conducting class of Environmental Studies outside the classroom

Location	*Very often f (f%)*	*Often f (f%)*	*Rarely f (f%)*	*Never f (f%)*	*Total f (f%)*
Forest	29 (12.4)	93 (39.9)	107 (45.9)	4 (1.7)	233 (100)
Mountains	1 (0.4)	2 (0.9)	47 (20.2)	183 (78.5)	233 (100)
Museum	0 (0.0)	14 (6.0)	129 (55.4)	90 (38.6)	233 (100)
Meadow	49 (21.0)	128 (54.9)	54 (23.2)	2 (0.9)	233 (100)
Field	26 (11.2)	54 (23.2)	115 (49.4)	38 (16.3)	233 (100)
Botanical garden	1 (0.4)	8 (3.4)	69 (29.6)	155 (66.5)	233 (100)
Vineyard	9 (9.3)	27 (11.6)	69 (29.6)	128 (54.9)	233 (100)
Orchard	24 (10.3)	62 (26.6)	109 (46.8)	38 (16.3)	233 (100)
Nature educational trail	3 (1.3)	31 (13.3)	148 (63.5)	51 (21.9)	233 (100)
Sea	2 (0.9)	5 (2.1)	40 (17.2)	186 (79.8)	233 (100)
Garden	30 (12.9)	82 (35.2)	91 (39.1)	30 (112.9)	233 (100)
In front of the school	108 (46.4)	104 (44.6)	20 (8.6)	1 (0.4)	233 (100)
Park	29 (12.4)	62 (26.6)	80 (34.3)	62 (26.6)	233 (100)
Adrenaline park	0 (0.0)	0 (0.0)	16 (6.9)	217 (93.1)	233 (100)
House of experiments	0 (0.0)	1 (0.4)	61 (26.2)	171 (73.4)	233 (100)
Other	4 (1.7)	15 (6.4)	5 (2.1)	3 (1.3)	27 (11.6)

The results show that when teaching the subject of Environmental Studies outside the classroom educators most often use an area located direct in front of the school (46.4%). The second most frequent location for

teaching the subject of Environmental Studies is the meadow (21.0%), followed by the garden (12.9%), the park (12.4%), and the forest (12.4%). Teaching outside the classroom is least frequent in adrenaline parks and houses of experiments. Under the category of "Other", participants listed the following locations for conducting class: by a pond, stream, in a nature study classroom, by a river, in a chemistry classroom.

The results show that there is a statistically significant difference in the frequency of teaching the subject of Environmental Studies based on school location most submitted locations: forest (p = 0.000), meadow (p = 0.000), field (p = 0.000), vineyard (p = 0.003), orchard (p = 0.000), sea (p = 0.048), park (p = 0.000), other (p = 0.040). Average ranks show that teaching outside the classroom in the listed environments is more often in rural areas. The park stands out as the location more often used by educators from urban schools.

The analysis has shown a statistically significant difference in the selection of location based on the years of employment for the orchard (p = 0.001) and the garden (p = 0.001). These two locations are most often chosen by educators who have over 20 years of employment.

Table 2. Number (f) and percentage (f%) of participants by frequency of teaching the subject of Environmental Studies outside the classroom

Activities	*Very often f (f%)*	*Often f (f%)*	*Rarely f (f%)*	*Never f (f%)*	*Total f (f%)*
Every hour	0 (0.0)	20 (8.6)	134 (57.5)	79 (33.9)	233 (100)
Once per week	26 (11.2)	66 (28.3)	117 (50.2)	24 (10.3)	233 (100)
Once per month	50 (21.5)	112 (48.1)	58 (24.9)	13 (5.6)	233 (100)
Never	0 (0.0)	5 (2.1)	79 (33.9)	149 (63.9)	233 (100)
Other	4 (1.7)	2 (0.9)	1 (0.4)	4 (1.7)	11 (4.7)

The highest percentage of participants (21.5%) very often teach the subject of Environmental Studies outside the classroom once per month, followed by participants (11.2%) who teach in this manner once per week. The participants who employ experiential learning four, six, or eight times per month are included in the "Other" category.

When analysing responses about the frequency of teaching the subject Environmental Studies outside the classroom in relation to the years of employment, we found statistically significant differences. The differences are reflected in the frequency of teaching the subject of Environmental Studies outside the classroom with educators who have been teaching for over 20 years, as these educators more often employ experiential learning outside the classroom than younger participants with less than 10 years of employment.

In the study, we also wanted to identify the methods most often used by educators in the first educational period in teaching outside the classroom, how many hours out of total hour for the subject of Environmental Studies is dedicated to such learning and teaching, and whether the educators wish to acquire additional knowledge for teaching the subject of Environmental Studies outside the classroom, and, if so, in what form.

Table 3. Number (f) and percentage (f%) of participants by chosen teaching method in teaching outside the classroom

Teaching methods	*Very often f (f%)*	*Often f (f%)*	*Rarely f (f%)*	*Never f (f%)*	*Total f (f%)*
Discussion	86 (36.9)	117 (50.2)	30 (12.9)	0 (0.0)	233 (100)
Practical work	157 (67.4)	74 (31.8)	2 (0.9)	0 (0.0)	233 (100)
Work with texts	13 (5.6)	65 (27.9)	127 (54.5)	28 (12.0)	233 (100)
Work with learning resources	9 (3.9)	72 (30.9)	126 (54.1)	26 (11.2)	233 (100)
Demonstrations	60 (25.8)	138 (59.2)	34 (14.6)	1 (0.4)	233 (100)
Direct observation	187 (80.3)	46 (19.7)	0 (0.00)	0 (0.0)	233 (100)
Research	146 (62.7)	79 (33.9)	8 (3.4)	0 (0.0)	233 (100)
Experimentation	84 (36.1)	91 (39.1)	52 (22.3)	6 (2.6)	233 (100)
Didactic games	43 (18.5)	113 (38.5)	70 (30.0)	7 (3.0)	233 (100)
Teamwork	57 (24.5)	135 (57.9)	37 (15.9)	4 (1.7)	233 (100)
Cooperative learning	61 (26.2)	116 (49.8)	50 (21.5)	6 (2.6)	233 (100)
Explanation	62 (26.6)	119 (51.1)	52 (22.3)	0 (0.0)	233 (100)

The obtained data shows that educators, when conducting class outside the classroom, most often use the method of direct observation (80.3%), followed by practical work (67.4%), and exploration (62.7%). The least used methods for teaching outside the classroom are work with texts (5.6%) and work with learning resources (3.9%).

When reviewing the results based on the educators' years of employment, we determined multiple statistically significant differences. In the case of working with texts ($p = 0.011$), we discovered that educators with over 20 years of employment more often use the method of working with texts than educators with less years of employment when working outside the classroom. A similar result was observed when we checked the method of work with learning resources ($p = 0.010$), where the results show that educators with over 20 years of employment more often use the teaching method with learning resources than educators with fewer years of employment. A statistically significant difference was also observed for the direct observation method ($p = 0.013$), which is most often used by educators with 11 to 20 years of employment than those with fewer than 10 or more than 20 years of employment.

Table 4. Number (f) and percentage (f%) of participants by conducting class on subject of Environmental Studies outside the classroom during the year

Share of conducting class	*f*	*f%*
Up to 30%	157	67.4
31–50%	71	30.5
51–70%	5	2.1
Over 70%*	0	0.0
Total	*233*	*100.0*

The results have shown that most educators (67.4%) conducts class for Environmental Studies outside the classroom up to 30% of total hours. The number of participating educators who dedicate 51% to 71% of total subject hours is the lowest (2.1%).

Considering the years of employment, there is no statistically significant difference in conducting class for Environmental Studies outside the classroom throughout the year. However, we observed a tendency of educators with fewer than 10 years of employment, as they conduct class outside the classroom slightly less frequently than educators with longer employment.

The results have shown that as many as 78.5% of educators want additional education and experience for conducting class outside the classroom. Therefore, we wanted to find out in what form they wanted to acquire said knowledge and information.

Table 5. Number (f) and percentage (f%) of participants by desired form of additional education

Form of education	*f*	*f%*
Workshops	49	21.0
Seminars	21	9.0
Examples of good practice	112	48.1
Other	1	0.4
Total	183	78.5

Most educators want to acquire additional knowledge with examples of good practice (48.1%), followed by those (21.0%) who would attend relevant workshops, and those (9.0%) who would attend seminars. Under the "Other" category, a participant proposed training with all three categories combined (workshops, seminars, and examples of good practice).

Discussion and conclusion

The purpose of the study was to determine which location is most often selected by educators in the first educational period for Environmental Studies outside the classroom, how often they conduct such activities, which work methods they use, how many hours out of total subject hours for Environmental Studies they dedicate to teaching outside the classroom, and in what form they wish to acquire additional knowledge on this subject.

The study showed that educators, when teaching the subject of Environmental Studies outside the classroom, very often conduct class directly in front of the school. We believe that educators choose this location because they know it well, consider it safe, and do not need an additional chaperone. Furthermore, the planning of the area for the activities and the planning of the time and learning resource required by the educator are simplest in such a location (Cenčič & Cenčič, 2002). Our opinion is also confirmed by studies (Ferbar, 1992), which have showed that educators, when teaching the subject of Environmental Studies outside the classroom, face numerous issue, i.e. doubt about safety, organisational obstacles, content limitations, etc., which means that such lessons are more easily conducted directly in front of the school than at a more distant location. Some pedagogues (Tai, Haque, McLellan & Knight, 2006) recommend arranging classrooms outside; however, care must be taken to make classrooms children-friendly, natural, interesting, and safe. As the second most frequent location for conducting class on the subject of *Environmental Studies* outside the classroom, educators select a meadow (21.0%) and a garden (12.9%). According to the 2004 (Hus, 2004) study, both locations were selected as the most frequent choice of location for conducting class outside the classroom. We assume that a garden and meadow are the type of locations that are easily accessible both to educators at rural school and educators at urban schools. Specifically, both locations offer a diverse and rich natural environment, which helps educators cover various teaching content in the subject of Environmental Studies. The study showed that educators are least likely to decide on conducting class on hard to reach locations, e.g. mountains, botanical gardens, sea, adrenaline parks, and houses of experiments.

When reviewing the difference in the selection of locations considering the location of the school (urban area, rural area), we determined that the school location has a significant influence in a specific geographic region, since educators select locations in direct vicinity of the school. In fact, educators teaching in rural school more often decide to conduct class outside the classroom in a forest, on a meadow, field, in a vineyard, orchard, or at sea. The park stands out as the location more often used by educators from urban schools. As already mentioned, the reasons for this is the accessibility of locations.

The highest percentage of participants decides to teach the subject of Environmental Studies outside the classroom once per month, followed by participants who teach in this manner once per week. The results obtained are not in accordance with our expectations, since, according to the theory and already conducted studies (Glogovec & Žagar, 1992; Marentič-Požarnik, 2000, Budnar, 2004; Hus, 2004; Gilbertson, Bates, McLaughlin & Evert, 2006; Bunting, 2006; Neil, 2006; Department for Education and Skills, 2006; Eick, 2012) reporting on the importance of conducting class outside the classroom, we assumed that educators would employ this kind of teaching more often. Here, we also observed a difference in the frequency of conducting class outside the classroom based on years of employments, specifically: educators with more years of employment more often employ experiential learning outside the classroom than younger educators. We attribute the reason for this result to the fact that younger educators are more burdened with the contents of teaching, organisation of class, and

preparations for conduction class than educators with more years of employment, who have acquired appropriate experience and competencies through the years of teaching. Our assumptions are also confirmed by some theoreticians (Marentič-Požarnik, 1992; Medved, 2007), who add that educators have to organise, plan, implement, and know how to suitably analyse and evaluate this form of teaching and learning. This can be further linked to the study (Korban-Črnjavič, 2016) that determined that educators in Slovenian schools' state that they wish to acquire more knowledge on how to conduct class outside the classroom, as they lack relevant experience and competence. The reason for the results can be found in already conducted studies (right there), which determined that younger educators, when conducting class outside the classroom, more frequently encounter problems, e.g. lack of material and tools, financial worries, schedule adjustments, than educators with more work experience. The obtained data show the issue of ensuring competence of younger educators for conducting class and teaching the subject of Environmental Studies outside the classroom, who are at the start of their careers and greatly lack the experience and knowledge in this important field.

Educators mostly responded that, when conducting class on Environmental Studies outside the classroom, they most often decide for the teaching method of direct observation, followed by practical work and exploration. All listed teaching method are those that are most important for experiential learning, which indicates that teaching that employs experiential learning is presents outside the classroom in Slovenian schools. In the theoretical introduction, we presented (Budnar, 2000) method for experiential learning, and the data shows that the most frequently chosen methods falls within the central and support methods of experiential learning. Here we must emphasise that a teaching method by itself does not represent experiential learning, but must be adapted to have the class conducted experientially. When conducting class outside the classroom, participating educators least often use the teaching methods of work with texts and work with learning resources. Here, statistically significant differences based on years of employment became apparent: educators with more years of employment use these two methods more often than educators with fewer than 20 years of employment. We can conclude that the use of different texts and other resources is more difficult outside the classroom, especially for younger educators. Our assumptions are congruent with findings so far (Budnar, 2000), which state that these two teaching methods fall under classing methods of experiential teaching and are more suitable for teaching in the classroom. We believe that educators should be additionally instructed about the most suitable methods for conducting class outside the classroom, and informed on how to integrate and implement these methods in the teaching process.

The updated syllabus for Environmental Studies includes recommendations for educators to plan the course in such a way to ensure pupils will learn as much as possible with personal experience and consideration of their own experience and ideas. Educators should thus organise the activities as concretely as possible, using exploration and in the immediate surroundings (Kolar, Krnel & Velkavrh, 2011). Children would thus learn about the forest in a forest, about the meadow in a meadow, etc., thereby developing different processes, abilities, and procedures

(measuring, taking notes, comparing, categorising, arranging, predicting, concluding, observing, etc.) (Kolar, Krnel & Velkavrh, 2011). The subject of Environmental Studies includes 105 hours of class per year (Kolar, Krnel & Velkavrh, 2011). With the study, we determined that educators most often conduct up to 30% of all hours of Environmental Studies outside the classroom, indicating that educators dedicate up to 31.5 hours for teaching outside the classroom. A large percentage is represented by educators who dedicate between 51% to 71% of hour, or more, to such teaching. *Ferbar* (1992) states that the strategy of teaching outside the classroom can be used in different stages and using different methods; however, it is increasingly more common that educators, for various reasons, avoid planning teaching outside the classroom. They face various issues, such as doubts about the security of children, organisational obstacles (it is necessary to ensure appropriate planning, implementation, evaluation, etc.), content limitations (educators state that they lack sufficient knowledge about nature to work with pupils outdoors), disciplinary obstacles (they fear reduced supervision of pupils and consequences thereof) (Ferbar, 1992), so they employ such methods less than recommended. The study showed a tendency of educators with fewer than 10 years of employment, as they conduct class outside the classroom slightly less frequently than educators with more years of employment. We assume that educators with more years of employment possess more knowledge, experience, and competence for such teaching, and employ it more often than educators who have been teaching for fewer years. This fact is in line with already conducted studies (Marentič-Požarnik, 1992), which state that, to employ such teaching and learning, an educator has to prepare, organise, plan, implement, and finally appropriately analyse and evaluate such work, which is, of course, made more difficult if the educator lack sufficient knowledge and competence for such methods of teaching.

Our study showed that participating educators most often conduct class of Environmental Studies outside the classroom in front of the school, on a meadow, in a garden, park, or forest. Based on the data in Table 4, we can assume that up to 30% of lessons of Environmental Studies outside the classroom is predominantly conducted by educators on the aforementioned locations, while they select other locations less frequently due to the aforementioned obstacles they face. *Marentič-Požarnik* (1992) assumes that the scope of different forms of experiential learning will increase in the future. By conducting class in a natural environment and by including various sources into lessons, we enable pupils to directly experience the real work, acquire their own experience, and help them form an appropriate attitude to the natural environment (Kramar, 2009). Teaching outside the classroom should therefore enable quality learning experience in real situations, which is reflected by higher achievements and development of higher social and personal skills (Department for Education and Skills, 2006; Eick, 2012). Conducting class outside the classroom represents a recommended form of work in a modern school, as it provides a range of positive effects, primarily in pupils' understanding of knowledge.

An encouraging study finding shows that educators also wish to acquire additional knowledge on this subject; specifically, they would most like to acquire said knowledge with examples of good practices. This indicates that educators want to get first-hand information on how to prepare and

organise lessons outside the classroom. For the future, and to make implementation of such methods of teaching easier for educators, we propose various forms of workshops, presentation of examples of good practices, seminars and trainings on experiential learning and teaching, since only prior theoretical knowledge and examples of good practices will help educators establish the conditions for such teaching, as well as the will and the sense of competence required in order that they employ such method of teaching.

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