

## GYMNASIUM PUPILS RESEARCHING THE GERSA VALLEY LANDSCAPE

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### **Abstract**

*This paper presents an experimental research, conducted in the 2016-2017 schoolyear, by ten 5<sup>th</sup> grade pupils from "Iacob and Ioachim Mureșanu" Gymnasium in Rebrîșoara, Bistrița-Năsăud County, Romania. Hypothesis: if the 5<sup>th</sup> grade pupils study the Gersa Valley landscapes directly, following a study guide, through school field trips and hikings, they will achieve good quality Geography skills. The experiment had three stages: the initial test, the learning activities and the final test. By direct observation of the landscapes and guided by the teachers' questions, the pupils discovered and deeply understood the way that a landscape functions and all the connections between its components.*

**Keywords:** *extracurricular activities, study guide, gymnasium, specific competences, field activities*

### **INTRODUCTION**

The Gersa Valley, located north in Bistrița-Năsăud County, has a large variety of landscapes, generated by the diversity of natural and anthropic (human) factors. Gymnasium pupils are generally attracted to the

landscapes they see, but lack the capability of analysing them and explaining the connections between all the system components. The teachers' guiding through the process of landscape observation represents a good opportunity for achieving, forming and developing specific geographical competences.

For this research, we organised several extracurricular activities, such as field trips and hikings, through which gymnasium pupils studied the Gersa Valley landscapes, conducted by their teacher and using a study guide. The goal of these activities was to see if the hypothesis confirms that if the 5<sup>th</sup> grade pupils study the Gersa Valley landscapes directly, using a study guide, through field trips and hikings, they will achieve good quality, sound geographical knowledge and skills. The independent variable in this study were the learning activities conducted in the valley of the Gersa River with the pupils, and the dependent variable was represented by the pupils' results.

## **THEORETICAL SUBSTANTIATION**

Landscapes were always the study object of both academic and preuniversity studies. All geographers were preoccupied by the definition of landscapes, their typology and other geographical features (Mac, 1990; Drăguț, 2000a, 2000b), and also by the right methods for the study of landscapes (Popescu, 2010; Volontir *et al.*, 2016).

Several studies of the Didactics of Geography focused on studying the cultural landscapes with pupils or with university students (Dulamă, Ilovan, and Buș, 2016), studying the urban cultural landscapes (Dulamă, Maroși, and Ilovan, 2016; Dulamă and Sanislai, 2016; Giurgiu, 2016), or studying the forming of rural identity based on its specific kind of landscapes and their preservation (Turșan *et al.*, 2016; Kosinszki and Dulamă, 2016).

This paper actually deepens the previous research of the Gersa Valley. Early studies focused on its potential for tourism and its economic use (Buzilă, 2014; Buzilă *et al.*, 2014; Buzilă, 2016), on its natural and anthropic landscapes (Buzilă, 2017b), or on studying Gersa Valley landscapes with gymnasium pupils (Buzilă, 2017a).

## **METHOD AND MATERIAL**

The research was conducted in the 2016-2017 schoolyear at the "Iacob and Ioachim Mureșanu" Gymnasium in Rebrîșoara, Bistrița-Năsăud County, Romania.

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*Research methods.* The research was organised as an experiment and had three stages: stage 1 – the initial testing of the sample group of pupils (Annex 1: Initial test); stage 2 – getting the group involved in learning and forming activities; stage 3 – final testing of the group (Annex 2: Final test).

19 learning, experimental activities were organised, all along the Gersa River Valley. The pupils studied the terrain generated landscapes (e.g. monoclinical structure) and all other landscapes generated by land use (e.g. woodland landscape, sheep fold, meadow, diversified agricultural crops), by roads (e.g. asphalt covered road, gravel road), by traditional machineries (e.g. sawmills, whirlpools), by characteristic rural occupations (e.g. bread cooking in the traditional bread oven, smoking the meat in the smokehouse) or by some buildings (e.g. The Ethnographic Museum of Rebrîșoara; The Old Orthodox Wood Church of Grui; The New Orthodox Church of the Gersa Valley-Grui, Gersa I; The "Saints Michael and Gabriel" Orthodox Church, Rebrîșoara; The Orthodox Church of Gersa Valley - Gersa I; The Pentecostal "Betel" Church of Rebrîșoara, The Pentecostal Church of Gersa Valley - Gersa I village).

We used the observation method and the one-to-one and collective discussions method to collect the data. We processed data using statistical methods. The results were interpreted by logical methods and represented through charts with the Excel programme.

*The participants.* The experimental group was formed by ten 5<sup>th</sup> grade pupils from "Iacob and Ioachim Mureșanu" Gymnasium, Rebrîșoara, and their teacher, Leon Buzilă, who participated in extracurricular activities, such as field trips and hikings in the Gersa Valley and for the direct observation and analysis of the landscapes. All the researchers, authors of this study, participated in planning and organising the research, collecting, analysing, and interpreting the data.

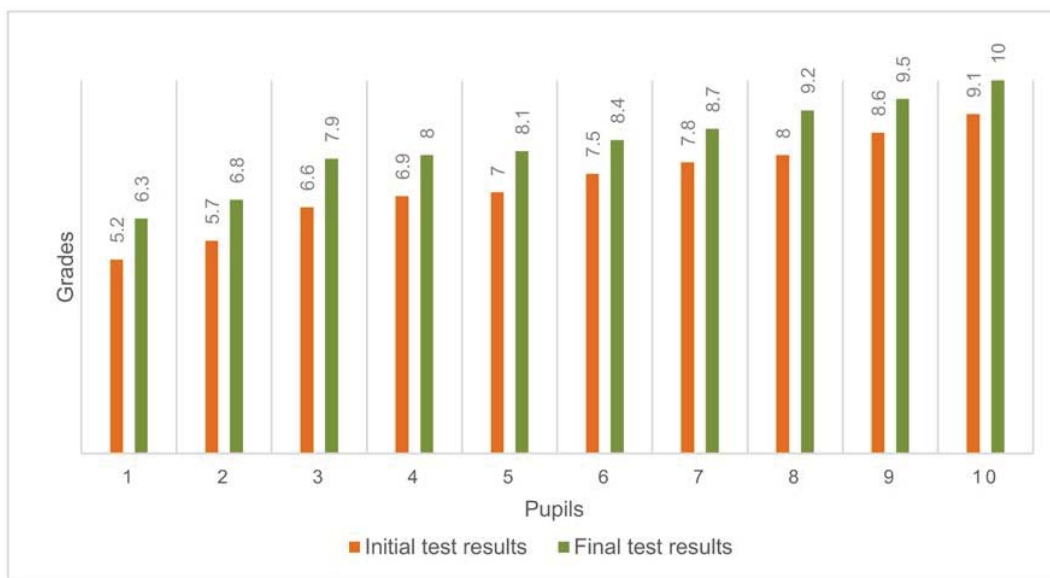
*The research material* includes pupils' answers to the questions in the study guide and to the teacher's questions during the field trips and also the results they obtained at the two tests – the initial test and the final one.

## RESULTS AND DISCUSSIONS

Figure 1 and Table 1 present the results obtained by the experimental group of pupils in the initial and the final test. For the initial test, the average grade for the group was 7.24, with a dispersion (scatter) of 1.34 ( $\Delta=1.34$ ) and a deviance of 1.15 ( $\delta= \sqrt{\Delta}=1.15$ ). For the final test, the average grade was 8.29, with a dispersion (scatter) of 1.18 ( $\Delta=1.18$ ) and a deviance of 1.08 ( $\delta= \sqrt{\Delta}=1.08$ ). The 1.05 difference shows a significant progress and increase of the geographical knowledge (related to the Gersa Valley), as a

result of the field activities the pupils participated in and the use of the study guide. The deviance dropped from 1.15 to 1.08, which indicates that the homogeneity of the study group raised with the same percentage.

When comparing the results of the initial test with the results of the final test, we can see that the latter are much better, due to the influence of the experimental factor.



**Fig. 1.** Results of the experimental group for the initial and the final test

**Table 1.** Results of the experimental group for the initial and the final test

	Grades						
	5-6.49		6.50-8.49		8.50-10		Average
	Nr.	%	Nr.	%	Nr.	%	
Initial test	2	20	6	60	2	20	7.24
Final test	1	10	5	50	4	40	8.29

The learning activities aimed at forming and developing the specific competences in the MECT 2008 Geography curriculum, as follows: 1.1. Recognition of geographical terms; 1.2. Explanation, in own words, of the basic geographical terms; 1.3. Simple geographical terms use in familiar or new contexts; 3.2. Identifying the connections between observable elements, phenomena and processes; 4.1. Identifying the main natural and socio-economic elements on a map; 4.3. Correct positioning of the geographical elements on simple cartographic maps; 4.4. Use of simple

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photographic representations; 7.1. Use of observation as an investigation method; 7.4. Data processing: filling a table with data from other sources; 7.8. Describing the observed elements, phenomena and processes (directly or indirectly).

Along these activities, the pupils were asked to answer the teacher's questions or those in the study guide. Through these questions, pupils were led to identify the type of the landscape and its components, to analyse a landscape, to describe it, to define several specific terms (e.g. wood, sheep fold, meadow, forest road, asphalt road), to compare landscapes (e.g. the coniferous forest with the deciduous forest, the forest gravel road with the asphalt road, agricultural landscapes), to explain how a landscape forms and evolves, the negative or positive influence of some factors on landscape.

## CONCLUSIONS

The learning activities organised in the Gersa Valley with the 5<sup>th</sup> grade pupils in the experimental group, through several field trips and hiking, led to good quality geographical knowledge for these pupils, and to the development of specific geographical skills and competences, as mentioned in the curriculum.

By analysing pupils' answers and the results of the two tests, we can see the efficiency of the activities, with conversation and observing as didactic methods, and the study guide for the Gersa Valley landscapes, which confirms the hypothesis of this paper. Through direct observation of the landscapes and guided by the teachers' questions, the pupils deeply understood the connections between the components of the landscape and the way it functions.

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### **Annex 1: Initial test**

Unit: "Jacob and Ioachim Mureșanu" Gymnasium, Rebrîșoara

Grade: 5<sup>th</sup>

Subject: Natural and anthropic landscapes of the Gersa River Valley

Note: answer ALL questions

Granted points: 10 (points)

Time: 50 minutes

Analyse the following natural and anthropic landscapes in the pictures below, noted **A** to **D**. Answer the following questions:

1. Define the term "natural landscape". 10 points
2. Describe in a 10 lines text what you observe in the landscape in picture A. 10 points
3. Describe in a 10 lines text what you observe in the landscape in picture B. 10 points
4. Describe in a 10 lines text what you observe in the landscape in picture C. 10 points
5. Describe in a 10 lines text what you observe in the landscape in picture D. 10 points
6. Identify 2 similarities and 2 differences between the landscapes in the pictures A and B. 20 points
7. Identify 2 similarities and 2 differences between the landscapes in the pictures C and D. 20 points





Image A



Image B



Image C



Image D

### Correction and grading scale

No intermediate fractions will be awarded, other than those explicitly specified by this scale. Any other formulations or correct ways of solving the tasks which correspond to the scale will be graded. Points will be granted as follows:

1. 10 points for the correct definition of the natural landscape.
2. 1 point for each correct sentence about the landscape in picture A. (10x1=10 p)
3. 1 point for each correct sentence about the landscape in picture B. (10x1=10 p)
4. 1 point for each correct sentence about the landscape in picture C. (10x1=10 p)



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5. 1 point for each correct sentence about the landscape in picture D. (10x1=10 p)
6. 5 points for each correct similarity and difference between the landscape in picture A and the landscape in picture B (only 10 points for incomplete or partially correct answers). (4x5=20 p)
7. 5 points for each correct similarity and difference between the landscape in picture C and the landscape in picture D (only 10 points for incomplete or partially correct answers). (4x5=20 p)

### **Annex 2: Final test**

Unit: "Iacob and Ioachim Mureșanu" Gymnasium, Rebrîșoara

Grade: 5<sup>th</sup>

Subject: Natural and anthropic landscapes of the Gersa River Valley

Note: answer ALL questions

Granted points: 10 (points)

Time: 50 minutes

Analyze the following natural and anthropic landscapes in the pictures below, noted **A** to **D**. Answer the following questions:

1. Define the term "anthropic landscape". 10 points
2. Describe in a 10 lines text what you observe in the landscape in picture A. 10 points
3. Describe in a 10 lines text what you observe in the landscape in picture B. 10 points
4. Describe in a 10 lines text what you observe in the landscape in picture C. 10 points
5. Describe in a 10 lines text what you observe in the landscape in picture D. 10 points
6. Identify 2 similarities and 2 differences between the landscapes in the pictures A and B. 20 points
7. Identify 2 similarities and 2 differences between the landscapes in the pictures C and D. 20 points



Image A



Image B



Image C



Image D

### Correction and grading scale

No intermediate fractions will be awarded, other than those explicitly specified by this scale. Any other formulations or correct ways of solving the tasks which correspond to the scale will be graded. Points will be granted as follows:

1. 10 points for the correct definition of the anthropic landscape.
2. 1 point for each correct sentence about the landscape in picture A. (10x1=10 p)
3. 1 point for each correct sentence about the landscape in picture B. (10x1=10 p)
4. 1 point for each correct sentence about the landscape in picture C. (10x1=10 p)
5. 1 point for each correct sentence about the landscape in picture D. (10x1=10 p)

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6. 5 points for each correct similarity and difference between the landscape in picture A and the landscape in picture B (only 10 points for incomplete or partially correct answers). (4x5=20 p)

7. 5 points for each correct similarity and difference between the landscape in picture C and the landscape in picture D (only 10 points for incomplete or partially correct answers). (4x5=20 p)