



## The Influence of Scouting Activities Upon the Students' School Performance. Analysis for Mathematics and the Environment Exploration and Communication in the Romanian language

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### Abstract

#### Keywords:

scouting activities;  
the scout method;  
school performance;  
the after-school program;  
young students;  
cubs;

Through the present study we wish to show the degree in which the scouting activities, based on the scout method, have a significant positive influence upon the school performance of the first grade pupil at Mathematics and the environment exploration and Communication in the Romanian language. The applicative pedagogic research takes place over one year, following the pupils from the first grade, in the two semesters. In the study are involved: five classes, out of which 41 pupils have enlisted at the scouts, constituting the experimental lot, and their colleagues, 90, being the control lot. The scouts attended weekly meetings and outdoor activities which prove their efficiency according to the statistical processing of the SPSS program.

### Zusammenfassung

#### Schlüsselworte:

Pfadfindertätigkeiten; Pfadfindermethode;  
schulische Leistung;  
Schulhort;  
Grundschüler;  
Wölfchen

Durch diese Studie möchten wir zeigen, inwiefern die Pfadfindertätigkeiten, die gemäß der Pfadfindermethode aufgebaut sind, einen positiven Einfluss auf die schulische Leistung der Erstklässler in den Fächern Mathematik und Naturkunde und Kommunikation in rumänischer Sprache haben. Die angewandte pädagogische Forschung wird während eines Jahres durchgeführt und beobachtet Erstklässler in den zwei Semestern. In der Analyse nehmen fünf Klassen teil, aus deren Mitgliedern 41 Schüler sich in die Pfadfindergruppe eingeschrieben haben – sie bilden die experimentelle Gruppe. Ihre 90 Kollegen bilden die Kontrollgruppe. Die Pfadfinder haben an wöchentlichen Treffen und an Aktivitäten im Freien teilgenommen, die sich laut der statistischen Bearbeitungen mit der Hilfe der SPSS Programme als wirksam erwiesen haben.

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### 1. Argument

Sir Robert Baden-Powell, the initiator of the scout movement, said: We try to make these children happy, healthy, helpful citizens. And you will see, should you send your children to the scouting, that we help school. There they are taught in order to succeed at examinations. We teach them to build up a character to succeed in life. But can scouting influence school performance? Through this research we wished to see if the answer to this question is a positive one; if scouting can positively influence young students' performance, students who

have to face many challenges, among which those of adaptation and integration into the formal environment.

The studying of the non-formal curriculum offered by the National Organisation „Romania's Scouts”, especially that of the Cubs age group (7-10 years), in the non-formal and school environment, we think it will highlight the strengths and the opportunities offered through the scout method.

### 2. The theoretical substantiation

The scout method is a specific pedagogic method which is a part of the non-formal education, having successful results over more

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than 100 years of scouting. In order to reach scouting's purpose, the adult volunteer members (the leaders) use in their activities with the children and young pupils an educational system formed out of 7 combined elements: learning by doing, teamwork, the symbolic frame, the system of personal progress, nature, law and the scout's promise, as well as the adults' support. The scout pedagogy aims six areas of development, which are: physical, intellectual, emotional, social, spiritual and character development. (www.scout.ro)

The National Organisation „Romania's Scouts” has an educational offer which lasts for 16 years (from 5 to 21 years), being a continuous one which is based on an annual non-formal

curriculum adapted to each age group. The activities of the organisation are dedicated to children and young adults, being divided on age groups as follows: 5-7 years, cubs (7-10 years), scouts (11-14 years), explorers (15-18 years), and seniors (18-21 years). We will take into consideration the cubs' age group.

By comparing the school's educational offer for the primary classes and that of the National Organisation “Romania's Scouts” for the cubs' age group, we have noticed similarities between their finalities. Here is a cutting up from The School Syllabus for Communication in the Romanian Language, 1st grade and one from The Intellectual Development Area, from the scout method, in order to highlight this aspect.

Table 1. Cutting up from *Communication in the Romanian language*, First grade (2012)

Formal education		
Grade	Specific competences	Example of learning activities
1 <sup>st</sup>	2.1. Articulation of statements using accent and intonation according to the communication intention	- exercises – game of diction, songs, rhythmic counting

In the class, in order to achieve these specific competences, the primary teacher suggests a diction game, with an accent on having a correct pronunciation of each word.

Table 2. Cutting up from *The intellectual development – Baloo's territory* (Petrea, E., 2010)

Non-formal education	
Educational objective	Activity
√ To form and develop vocabulary	- Diction exercises

At the meeting with the scouts, the leader will suggest the cubs a song as a game, which requires the clear and correct pronunciation of each word: Look and watch that little mouse. This song is accompanied by movement. The lyrics are the following: Look and watch that little mouse,/ Look and watch that little mouse,/ It is so big,/ And it is so strong,/ Look and watch that little mouse. The song repeats itself and each time we “cut” the last letter from the final word in the line.

The poem is repeated at different intensities, from a normal intensity speech to a whisper and then to yelling. After that, the poem is repeated from a normal rhythm of speech to more alert and then slower rhythms. In all the speech forms, the children are encouraged to pronounce all the sounds correctly and in full

length. At the end the children say how they felt all through the game.

Through both activities the correct pronunciation of words, the finalities (specific competences, the educational objectives) are followed as being compatible, the scout method supporting and completing the classroom activity.

### 3. Methodology

The purpose of the research is to establish in what way the activities based on the scout method have a positive significant influence over the school performance of the first grade pupils. Since we considered that the school performance can be influenced also by the young pupil's attending the after-school

program, we have taken this aspect into consideration as well.

Starting with the multiple educational influences that the scouting has in general, and particularly those that can be correlated with the formal education we have shaped the following hypothesis:

*The general hypothesis:* The capitalization in formal contexts of the learning and forming experiences, lived by the 7/8 year-old children in the non-formal scouting educational activities has a significant influence over the school performances at *Mathematics and the environment exploration* and *Communication in the Romanian language*.

*The secondary hypothesis:* The attendance at the after-school program (extended program) has a moderator effect in the relationship between the attendance of the non-formal scouting activities and the school performance of the first grade pupils at *Mathematics and the environment exploration* and

*Communication in the Romanian language*.

As it can be seen from the secondary hypothesis, there was a moderation procedure. The moderator variable: attending the after-school program intervenes in the relationship between the independent variable: attending the non-formal scouting activities and the dependent variable: the school performance of the first grade pupils.

The type of statistic procedure selected for analysis was the factorial ANOVA, analysis which presumes highlighting the differences between the averages of groups according to their spreading (variation) and not according to the direct difference between them. The conceptual and the statistic models are presented in Figure no. 1 and in Figure no. 2.

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Figure 1. The conceptual model of the solution used to check the secondary hypothesis

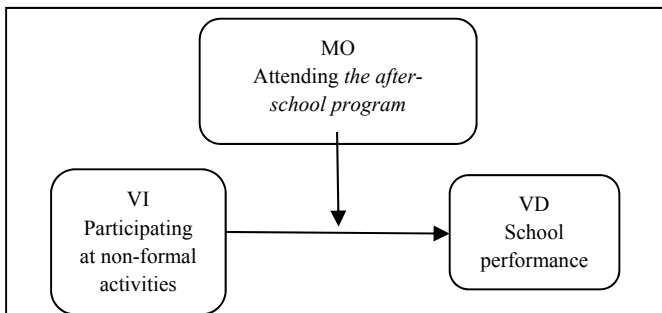
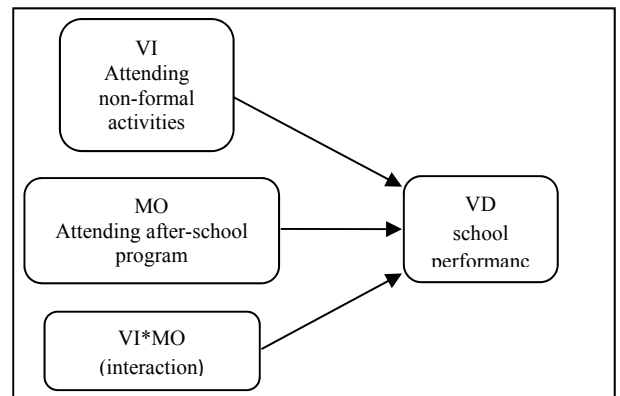


Figure 2. The statistic model of the solution used to check the secondary hypothesis



The experiment is the main method of investigation used in research with the intention of verifying the hypothesis. In the research there was used an experimental inter-subjects design, which means comparing two groups: an experimental one and a control one.

In order to prove its efficiency, the intervention program, the scout method, was used at the experimental lot starting with the preparatory grade, the psycho-pedagogic experiment taking place for 19 months, from December 2014 until June 2016. The performances which are analysed are from the first grade, since only then the pupils start receiving grades.

The experiment was organised in Tîrgu-Mureş County within the activities that took place at the Local Centre Tîrgu-Mureş – The National Organisation Romania’s Scouts, at the Cubs age

group (7-10 years). Two units were created (one unit is a form of scouting organisation in which a group of 20-30 children or young people are active), where the students who wanted to be enlisted within the organisation were randomly distributed.

During the experiment, for three semesters, weekly meetings took place with each unit and also outdoor activities with the other units of cubs, explorers and a summer camp together with all the age groups within the Local Centre Tîrgu-Mureş. During these meetings and activities we followed a convergence between the specific competences suggested in the syllabus for the first grade and the educational objectives specific for the scout method, more precisely the objectives correspondent to the areas of social, intellectual and emotional development,

according to the scouting pedagogy within The Guide of the Leader Cub, by Elena Petrea.

For each meeting and activity, meeting sheets were made (for example Annex 1), these being the equivalent of the activity projects within the formal education.

Another research method that we used is the method of researching curricular documents and of other school documents. The catalogues belonging to each class participating to the study were used, in order to follow the grades obtained by the pupils.

4. The participants' sample

Following the presentations to the parents, they chose to enlist or not their children to the scouts. Therefore a number of 41 students from five classes, constituted the experimental lot, and the other 90 classmates were the control lot. We chose this way of selection as it is a non-formal activity, at which the participation must be volunteer and it is a part of the individual's time, which he chooses to allocate.

The pupils enlisted at the scouts joined, within the National Organisation Romania's Scouts – Local Center Tîrgu-Mureş, the children who were already members of this organisation. We consider this aspect beneficial as one of the scouting principles is "the big one helps the little one", where "the little one" can also be the one who has less experience in scouting, it is not only about age.

We would like to underline the fact that school performance was followed at Mathematics and the environment exploration and Communication in the Romanian language, since at these subjects were observed different grades. For the other subjects, in the majority of cases, the grade was unique, and that was Very well.

Two types of analysis were made, for each of the two subjects. Since the number of participants from the two lots is not equal, the Levene Test was made, bi-variates test in order to establish the degree of similarity between the variations of two samples (dependent and independent), measured on a scale. ([www.orznanm.ase.ro/spss](http://www.orznanm.ase.ro/spss))

Table no. 3, Between-Subjects Factors, highlights the number of participants at the research for each of the factors' values. It is important to have a sufficient number for each value and not to be very big differences between groups.

Table 3. The Between-Subjects Factors Table

Between-Subjects Factors			
		Value Label	N
Scouting	1.00	Yes	41
	2.00	No	90
The schedule frequency: after-school	1.00	Yes	68
	2.00	No	63

In the case of the analysis for *Mathematics and the environment exploration* the Levene Test of the variants equality indicates an uneven dispersion between the subgroups,  $p(sig.)=0,267$  indicating the rejection of the un-homogeneity hypothesis.

Table 4. Levene's Test for *Mathematics and the environment exploration*

Levene's Test of Equality of Error Variances <sup>a</sup>			
Dependent Variable: Mathematics and the environment exploration			
F	df1	df2	Sig.
1.332	3	127	.267

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Scouting + After-school + Scouting \* After-school

In the case in which  $p$  would be lower than 0,05 it would have been significant and the co-linearity phenomenon

would have appeared, also the variant could not have been estimated. But, in order for  $p$  not to be significant, therefore, there is no co-linearity, the variant of the investigated parameters' estimation increases and the trust intervals are higher and higher.

Also in the case of the analysis for *Communication in the Romanian language* the Levene Test of the variants' equality indicates an uneven dispersion between subgroups,  $p(\text{sig.})=0,105$  indicating the rejection of the un-homogeneity hypothesis.

Table 5. Levene's Test for *Communication in the Romanian language*

Levene's Test of Equality of Error Variances <sup>a</sup>			
Dependent Variable: Communication in the Romanian language			
F	df1	df2	Sig.
2.090	3	127	.105
Tests the null hypothesis that the error variance of the dependent variable is equal across groups.			
a. Design: Intercept + Scouting + After-school + Scouting * After-school			

## 5. The content sample

The scouting pedagogy has its own contents, organised and structured according to the specific of maturity and educational needs belonging to each age group, tailored in a symbolic frame, in a story. Regarding the age group that we are discussing, the symbolic frame is *The Jungle Book*, by Rudyard Kipling, the children being able to identify with certain characters from the story, in order to get involved, to progress.

Through the symbolic frame are aimed a series of development areas, each associated with a character from the

*Jungle Book*. The development areas are made gradually, in the 4 years dedicated to this age group, the children being aware that they are in the territory of the character that rules that area of development.

The standard model of implementation of the symbolic frame means the division of the development areas over 4 years, and we overlapped the research at the first two years, going through the territories of Chill, Baloo and Kaa, which means the areas of social, intellectual and emotional development.

Table 6. The organising of the personal progress system at the Cubs' age group

Year	The first half of the scouting year (October - February)	The second half of the scouting year (March - July)
I	The enlisting time, meetings with parents, the entrance of the little wolf into the Haitic, adjusting	Chill's territory (social development)
II	Baloo's territory (intellectual development)	Kaa's territory (emotional development)
III	Bagheera's territory (physical development)	Hathi's territory (spiritual development)
IV	Akela's territory (character development)	A training period for the passing at the daredevils, the next age branch.

## 6. The results obtained and discussions/ the analysis of the results

There were two types of analysis made, one for *Mathematics and the environment exploration* and one for *Communication in the Romanian language*, which we will present in turn.

Table 7. The Between-Subjects Effects Test for *Mathematics and the environment exploration*

Tests of Between-Subjects Effects								
Dependent Variable: Mathematics and the environment exploration								
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	25.373 <sup>a</sup>	3	8.458	26.670	.000	.387	80.010	1.000
Intercept	615.070	1	615.070	1939.496	.000	.939	1939.496	1.000
Scouting	6.602	1	6.602	20.818	.000	.141	20.818	.995
After-school	4.064	1	4.064	12.816	.000	.092	12.816	.944
Scouting * After-school	7.188	1	7.188	22.666	.000	.151	22.666	.997
Error	40.275	127	.317					
Total	739.000	131						
Corrected Total	65.649	130						

a. R Squared = .387 (Adjusted R Squared = .372)

b. Computed using alpha = .05

The Between-Subjects Effects Test synthesizes the main indicators of the analysis:

The F value=26,670 from the Corrected Model line, which tests the global effect is significant. The effect of participating at the scouting activities cumulated with the *After-school program* influences significantly the pupils' performances at *Mathematics and the environment exploration*.

The F value=20,818 from the Scouting line indicates a significant effect of participating at the scouting activities over the performances at *Mathematics and the environment exploration*. The „eta partial square” value (0,141) indicates an increased value of the effect in the relation between the two variables.

The F value=12,816 from the *After-school program* line indicates a significant effect of participating at the after-school program over the performances at *Mathematics and the environment exploration*. The „eta partial square” value (0,092) indicates a reasonable increase of the effect in the relation between the two variables. The influence of the *After-school program* over the performances at *Mathematics and the environment exploration* is lower than that of participating at scouting activities.

The F value=22,666 from the Scouting \* *After-school program* line indicates a cumulated effect of participating at the scouting activities and at the after-school program over the performances at *Mathematics and the environment exploration*. The „eta partial square” value (0,151) indicates a high value of the effect in the relation between the two variables. Therefore, we notice that by introducing the *After-school program* variable, the effect over the performance at *Mathematics and the environment exploration*, the variable grows having a significant moderator effect in the relation between the independent variable (Participating at the scouting activities) and the dependent variable (*Mathematics and the environment exploration*).

Table 8. The Between-Subjects Effects Test for *Communication in the Romanian language*

Tests of Between-Subjects Effects								
Dependent Variable: Communication in the Romanian language								
Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared	Noncent. Parameter	Observed Power <sup>b</sup>
Corrected Model	23.083 <sup>a</sup>	3	7.694	21.492	.000	.337	64.476	1.000
Intercept	620.587	1	620.587	1733.450	.000	.932	1733.450	1.000
Scouting	6.044	1	6.044	16.883	.000	.117	16.883	.983



After-school	3.629	1	3.629	10.137	.002	.074	10.137	.885
Scouting * After-school	.605	1	6.605	18.450	.000	.127	18.450	.989
Error	45.467	127	.358					
Total	751.000	131						
Corrected Total	68.550	130						

a. R Squared = .337 (Adjusted R Squared = .321)

b. Computed using alpha = .05

The Between-Subjects Effects Test synthesizes the main indicators of the analysis:

The F value=21,492 from the Corrected Model line, which tests the global effect is significant. The effect of participating at the scouting activities cumulated with the *After-school program* influences significantly the pupils' performances at *Communication in the Romanian language*.

The F value=16,883 from the Scouting line indicates a significant effect of participating at the scouting activities over the performances at *Communication in the Romanian language*. The „eta partial square” value (0,117) indicates an increased value of the effect in the relation between the two variables.

The F value=10,137 from the *After-school program* line indicates a significant effect of participating at the after school program over the performances from *Communication in the Romanian language*. The „eta partial square” value (0,074) indicates a reasonable increase of the effect in the relation between the two variables. The influence of the *After-school program* over the performances at *Communication in the Romanian language* is lower than that in the case of participating at scouting activities.

The F value=18,450 from the Scouting \* line, the *After-school program* indicates a significant cumulated effect of participating at the scouting activities and at the after school program over the performances at *Communication in the Romanian language*. The „eta partial square” value (0,127) indicates an increased value of the effect in the relation between the two variables. Therefore, we notice that by introducing the *After-school program* variable the effect over the performance at *Communication in the Romanian language* increases the variable having a significant moderator effect in the relation between the independent variable (Participating at scouting activities) and the dependent variable (*Communication in the Romanian language*).

## 7. Conclusions

This study contributes to the highlighting of positive effects that the non-formal education, especially scouting, has over the young pupil concerning school performance. Testing the hypothesis of the research we noticed that the non-formal scouting educational activities have a significant positive influence over the school performances at Mathematics and the environment exploration and Communication in the Romanian language at the first grade pupils, and attending the after-school has a moderator effect in the relation between the two variables (the independent variable – participating at the scouting activities and the dependent variable – the two school subjects).

The grades obtained by the pupils can be determined by other influences as well, but in this research there were similarities found between the finalities of the two forms of education; even more, there was a convergence between the finalities through the activities suggested by the scouts.

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