

MEASURING THE EFFICIENCY OF AN AFTER SCHOOL EDUCATIONAL PROGRAM IMPLEMENTED IN RURAL AREA

C. ȚURCANU (DIMITRIU)¹ C. CONSTANTIN² A. S. TECĂU³

Abstract: *This study presents a marketing experiment in which it is intended to determine whether an educational program of “school after school” type training implemented in rural areas generates significant results in the progress made by the pre-school and school beneficiaries. This experiment aimed at measuring the level of children's skills through the perspective of teachers, both before and after taking part in the education program for a semester. The experimental scheme is based on the assumption that the training program had a positive impact on the participants’ skills. The results of the study show significant progress among pre-school and scholars involved in the “Learn by play every day” program. Therefore, we can conclude that it represents a real support for a large part of the children in rural area who come from families with a poor socio-economic situation that cannot “invest” in their education.*

Key words: *educational program, rural areas, education marketing, marketing experiment, children's progress.*

1. Introduction

Although a large number of literature articles address topics related to the importance of education and well-being of children in rural areas and the need to implement national programs to review educational aspects, most of them present statistical situations in which issues are assessed by describing the access of rural children to education, the context in which their education and learning outcomes take place, the involvement of adults in the education of their children, as well as their attitudes toward the role of education and the importance of school education (Badescu, et al., 2016).

Others are only about identifying the problems that rural pupils face and the consequences of these problems in the short, medium and long term. There are few studies that address the measures and strategies required to solve the identified problems by providing concrete ideas for action. Even in these studies there is still an

¹ *Transilvania* University of Braşov, cristina.turcanu@unitbv.ro

² *Transilvania* University of Braşov, cristinel.constantin@unitbv.ro

³ *Transilvania* University of Braşov, alina_tecau@unitbv.ro

unfilled gap, given that the proposed action plans never come into effect and there is no direct link between the solutions proposed and their real impact on improving the quality of education. Therefore, they still remained at a theoretical level.

In this study we measured directly the impact of an after-school program on pre-school and school children in rural areas in terms of the concrete benefits they receive as a result of participating in the proposed activities. The research hypothesis is that the proposed program has a positive impact on the children's skills.

2. Literature Review

Education in rural areas is considered a priority objective in terms of investment and specific development programs. The analyzed studies reinforce the perception of the disadvantaged background with regard to the rural areas both from the perspective of local resources starting from the family context, followed by those of educational establishments, and ultimately from the community point of view, and by assessing the participation and performance of rural students in the education system. Support programs must therefore be drawn up for rural educational establishments in line with specific contextual needs (Novac, 2017).

The implementation of "school after school" programs, in which pupils are given the possibility to spend more time carrying out teaching activities in a less formal way, could lead to the improvement of the education in the Romanian rural environment over time. In this respect, it is very important to be analyzed aspects such as: (1) the aim of each action program; (2) the capacity of the strategies to reach those groups for which they have been drawn up; (3) the effectiveness of the measures adopted in terms of targeting and coverage of the target groups; (4) the institutional and financial capacity to support the programs in order to achieve long-term objectives. Without evaluating these aspects, educational strategies may remain viable as targets but ineffective in delivering, and pupils from disadvantaged backgrounds will be the first target groups to suffer from inefficiency (Stoica, 2006).

The performance of pupils in education is important in the long term given their links with labor market success and economic development. But there are also essential non-cognitive results of schooling. These results include the well-being of pupils, which has become a priority objective in Western countries, justified by the fact that childhood and adolescence well-being is an important predictor of adult behavior and well-being (Heller-Sahlgren, 2018). As regards the evaluation of the quality of education, it is not sufficient to quantify only the quantitative indicators regarding the knowledge acquired by children over a given period of time, which have a high degree of objectivity is assessed, but perhaps even more relevant is the measurement of qualitative indicators that provide more information on pupils' satisfaction, their ability to solve problems, the curiosity naturally exhibited, the avidity for knowledge, the pleasure of learning and the level of personal development (Sramova, 2013). Education programs complementary to compulsory education can have a major impact on enrollment, participation and progress or the results achieved by children in primary education (Bauchet, et al., 2018). The implementation of school-after-school programs in which pupils participate in

learning activities in a less formal way is essential especially for families with a poor socio-economic situation and could lead over time to improved education in the Romanian rural environment (Tecău, 2017).

Researchers should examine in experimental studies the impact of different models of educational programs on social, cognitive and linguistic processes that influence the results of children's development (LoweVandelle, et. al., 2005). It is a valuable initiative in understanding the relationships between the components of educational programs and personal skills, positive social behaviors, levels of academic achievement, significant reductions in problem behavior among participants. Such research is justified to identify the characteristics of the program that can help us understand why some programs are more successful than others (Durlak, et. al., 2010) and to set up models to follow.

3. Research Objectives and Methodology

The main objective of the research is to determine the effectiveness of a "school-after-school" training program involving a group of children from a rural area, based on the teachers' perspectives regarding their progress after a school semester of the program. In this respect, a sample of 47 children (pre-school and scholars) was randomly selected from the participants in the educational program "Learn by play every day".

In a first phase, before the start of the program, teachers from educational establishments whose classes/groups are the sampled children were asked to assess each child at that time by completing an assessment and monitoring sheet in the light of the following: physical development, personal health and hygiene, social development, emotional development, language and communication development, development of reading and writing premises, cognitive development, learning capacities and attitudes. For each category of skills, abilities, knowledge, several relevant items have been analyzed. The evaluation and monitoring sheet was conceived in the form of a questionnaire containing 26 items on which teachers were asked to appreciate the level of development of each child regarding the aspects investigated on a scale from 1 point ("very low" level) to 10 points ("very high" level).

Next, within a project financed from European funds, the program "Learn by play every day" took place during one school semester. This program was foreseen as a "school after school" program, complementary to the compulsory pre-school and scholar scheme, which provides opportunities for children to strengthen assimilated knowledge and acquired skills. It enables them to accelerate learning through educational and leisure activities, which have taken place after the completion of the compulsory school program. In addition to this program, specific teaching activities and thematic weekly workshops for children on health education and regular monitoring of the health of children, workshops in the field of personal hygiene and care, home hygiene and weekly counseling programs with specialized staff (psychologist, health care, etc.) were carried out under this program. The program also provided hot meals on a daily basis and provided school facilities with teaching materials, games and toys, educational software adapted to the individual interests and the specific needs of children by age category.

After the first semester since the start of the program, teachers were asked to fill in again the questionnaires, identical to the first ones, for the sampled children. The Wilcoxon Test was used for identifying the statistical significance of the differences between the scores recorded by each child after the program and before the participation to this one.

The hypotheses from which this research was started are:

Null hypothesis: The educational program “Learn by play every day” had no impact on preschool and scholars.

$$H_0: \bar{x}_1 = \bar{x}_2$$

Alternative hypothesis: The educational program “Learn by play every day” had a positive impact on pre-school and scholars.

$$H_1: \bar{x}_2 \neq \bar{x}_1$$

A simple experimental scheme, i.e. the pre-test and post-test scheme of the experimental group, was used to carry out this study without a control group:

Experimental group: R O1 X O2

where:

R = random determination of the group and treatment;

O1 = measurement of aspects investigated in the first stage (prior to deployment the type of education program "school after school");

X = exposure of the group to experimental treatment (running the program “Learn by play every day” for one semester);

O2 = measurement of effects on the dependant variable in the second phase (after one semester of the preparation program).

In this case, it is assumed, as hypothesis, that the difference O2 - O1 is due exclusively to the influence of the experimental factor. This scheme can help us to know whether this form of training has had a positive impact on the psychosomatic development of pre-school and school children from the rural areas included in the experimental group in order to adapt to educational requirements.

The Wilcoxon test has been applied using the SPSS system to compare the differences that may occur between the two measurements (Constantin, 2006). The results of the Wilcoxon test for each researched item are presented in the next section.

4. Research Results and Discussions

According to the results achieved, even if participation in the activities carried out under this educational program did not have the same influence on all the sampled children, overall, most of them made progress on most of the issues analyzed. This is confirmed by the average appreciations of teachers after the first semester of program

implementation, which compared to those before their participation in the education program are significantly higher (see Table 1).

Descriptive Statistics

Table 1

	O1					O2				
	N	Minimum	Maximum	Mean	Std. Deviation	Minimum	Maximum	Mean	Std. Deviation	
v1. Physical development	47	2.33	10.00	6.9257	1.75472	2.67	10.00	7.6847	1.72987	
v2. Health and personal hygiene	47	3.00	10.00	7.2198	1.94326	4.00	10.00	7.9500	1.77412	
v3. Social development	47	2.50	9.50	6.7909	1.64090	3.25	10.00	7.6100	1.58406	
v4. Emotional development	47	2.67	9.00	6.4823	1.46207	3.33	10.00	7.3472	1.53203	
v5. Language and communication development	47	3.50	9.50	6.8511	1.58428	4.00	10.00	7.7660	1.61801	
v6. Development of reading and writing premises	47	2.50	9.75	6.3085	1.96519	3.00	10.00	7.1915	2.03048	
v7. Cognitive development	47	2.33	9.33	6.0209	2.02107	3.00	10.00	6.7940	2.04511	
v8. Learning skills and attitudes	47	2.00	10.00	6.2979	1.92003	3.00	10.00	7.1064	1.91231	
Valid N (listwise)	47									

This is also shown in figure 1, as can be seen overall, the average of the teachers' appreciation after a semester of the program is higher than the one before it was started, as regards all the aspects analyzed in relation to the personal development of children.

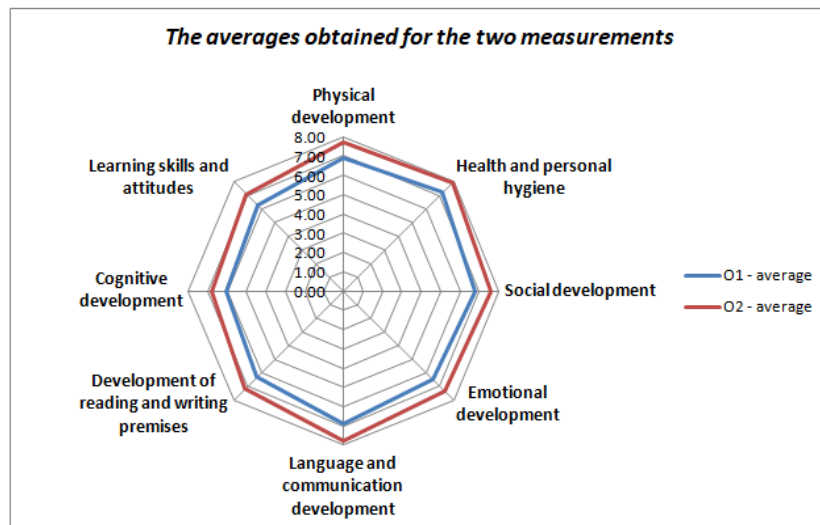


Fig. 1. *The averages obtained for the two measurements*

As regards the influence of the education program on each category of skills, competences and abilities analyzed according to the results obtained, the educational program has had a positive impact in particular on the aspects of social development, emotional development, language and communication development and development of reading and writing premises. The results presented in Table 2 reveal that after participating in the program more than 40 children out of 47 participants received

improved appreciation from teachers on their level of development. They have made significant progress after the first semester in which they participated in the activities under the program, while for the other participants the assessments remained constant.

Wilcoxon Signed Ranks Test

Table 2

		Ranks		
		N	Mean Rank	Sum of Ranks
O2: v3 - O1: v3 (v3. Social development)	Negative Ranks	0 ^g	.00	.00
	Positive Ranks	43 ^h	22.00	946.00
	Ties	4 ⁱ		
	Total	47		
O2: v4 - O1: v4 (v4. Emotional development)	Negative Ranks	0 ^j	.00	.00
	Positive Ranks	45 ^k	23.00	1035.00
	Ties	2 ^l		
	Total	47		
O2: v5 - O1: v5 (v5. Language and communication development)	Negative Ranks	0 ^m	.00	.00
	Positive Ranks	44 ⁿ	22.50	990.00
	Ties	3 ^o		
	Total	47		
O2: v6 - O1: v6 (v6. Development of reading and writing premises)	Negative Ranks	0 ^p	.00	.00
	Positive Ranks	44 ^q	22.50	990.00
	Ties	3 ^r		
	Total	47		

a. O2: v3 < O1: v3; b. O2: v3 > O1: v3; c. O2: v3 = O1: v3;
 d. O2: v4 - O1: v4 < O1: v4; e. O2: v4 - O1: v4 > O1: v4; f. O2: v4 - O1: v4 = O1: v4;
 g. O2: v5 - O1: v5 < O1: v5; h. O2: v5 - O1: v5 > O1: v5; i. O2: v5 - O1: v5 = O1: v5;
 j. O2: v6 < O1: v6; k. O2: v6 > O1: v6; l. O2: v6 = O1: v6.

For the other analyzed issues most of children received a better appreciation from teachers, but the progress made is not the same. Following this experiment it has observed that the thematic workshops under the "school after school" program have a quite small contribution to improving the physical development, health and personal hygiene aspects (the analyzed items referring to the state of health and nutrition, personal care and hygiene, personal safety practices), cognitive development (in terms of logical thinking and problem solving, knowledge and understanding of the world, environmental protection, environmental spirit development, biodiversity) and learning skills and assets (curiosity and manifested interest, initiative, persistence in activity and creativity).

According to teachers' opinion, this phenomenon can be explained by the fact that these sides of children's development must be foundations of education received from home that can be further developed in the school environment. In rural areas, however, many children face numerous gaps due to the poor education they receive in families. In this context, teachers argue that they need to participate in such an educational program for a longer period, because spending more hours a day in an environment suitable for the educational process can acquire social behavior appropriate to the current state of civilization.

In Table 3 it can be observed that the p-value = 0.000 for each variable analyzed. Therefore, because the value of this significance level is lower than 0.05 we

can guarantee that the means of appreciations received by children after the participation in the education program are significantly higher in comparison with the first measurement.

Test Statistics^a

Table 3

	v1. Physical development	v2. Health and personal hygiene	v3. Social development	v4. Emotional development	v5. Language and communication development	v6. Development of reading and writing premises	v7. Cognitive development	v8. Learning skills and attitudes
Z	-5.886 ^b	-5.752 ^b	-5.860 ^b	-6.042 ^b	-5.975 ^b	-5.883 ^b	-5.803 ^b	-5.969 ^b
Asymp. Sig. (2-tailed)	.000	.000	.000	.000	.000	.000	.000	.000
a. Wilcoxon Signed Ranks Test								
b. Based on negative ranks.								

Taking into consideration the above results, the research hypothesis has been confirmed: the educational program “Learn by play every day” had a significant positive influence on participants (pre-school and school children).

5. Conclusions

From the analysis carried out, it appears that as regards each aspect investigated, the educational program “learn by play every day” had a positive impact on children. This conclusion is based on information obtained from the application of the Wilcoxon test using the SPSS program. Since in each case the significance level was less than 0.05, the alternative hypothesis H_1 was accepted with a probability higher than 95%, which confirms that between the mean of the assessments in the first measurement and the mean for the second measurement, after the group has been subject to an incentive (participation to a half-year after-school program), there are statistically significant differences.

We can conclude that this experiment has demonstrated that the program has achieved its aim of helping to strengthen assimilated knowledge and acquired skills, and the possibility of accelerating learning through educational and leisure activities for children in rural areas who have taken part in the experiment. According to the teachers’ opinion, the existence of such a program, complementary to the compulsory pre-school and school program, represents real support for a large proportion of children in this area who come from families with a poor socio-economic situation that cannot “invest” in their education.

This study will be complemented by other research to be carried out with a view to determining those activities funded under the "I learn, I play, I am happy at school" project with a significant contribution to the motivation and personal development of pupils, to be reflected in both the individual and the rural student community. The education program proposed under the said project can now be considered a pilot program. On the basis of the research results on the real impact of actions and activities on direct and indirect beneficiaries (irrespective they are children, parents or schools, teachers, community), the most appropriate methods, activities, solutions will be

identified. Marketing strategies that can be implemented in programs to increase the quality of education in rural areas should be also designed. The proposed solutions will be aimed at being viable in the long term in order to develop similar programs that could be carried out at the level of all rural communities in Romania in the most efficient way, taking into account the cost-effectiveness ratio.

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