

# THE INTERDISCIPLINARY APPROACH OF ARTS AND CRAFTS ACTIVITIES AS A PREREQUISITE FOR OPTIMIZING SCHOOL PERFORMANCE

Elena Viorica Chiția<sup>1</sup>, Elena-Simona Indreica<sup>2</sup>, Ph.D.

<sup>1</sup>Școala Gimnazială Aron Pumnul, Cuciulata, Romania

<sup>2</sup>Universitatea Transilvania din Brașov, Romania

[elena.indreica@unitbv.ro](mailto:elena.indreica@unitbv.ro)

**Abstract:** *The interdisciplinary approach to school activities, although frequently practiced in primary school, does not have the expected impact. This study started from the premise that the optimization of school performance can be achieved through the interdisciplinary teaching of artistic and plastic activities. The investigation was conducted on second grade pupils from the Secondary School Aron Pumnul Cuciulata (the experimental group) and from the Crihalma Gymnasium School (the control group). The results obtained emphasized the role of drawing in the accessing complex notions in fields such as mathematics, grammar or natural sciences, and led to the confirmation of the hypothesis.*

**Keywords:** *artistic and plastic activities; school performance; interdisciplinary;*

## 1. Introduction

Interdisciplinary teaching has emerged in the educational process as a sine qua non condition for adapting to the demands of society to solve the great problems of the contemporary world (UNESCO). Frequently practiced in primary school in subjects such as mathematics (Velicu, 2016) or Romanian language group and literature (Norel, 2010), interdisciplinary teaching does not have the expected impact (ICOS report). In theory, integrated teaching is currently at the core of the primary school curriculum. In practice, the teaching-learning-evaluation process follows the classic pattern. How could this strategy, which requires radical reconsideration both in terms of content organization and in the context of teaching and learning, be improved? (Ciolan, 2008). Given the natural need of the small schoolchild to explore the closest environment (Bocoș & Chiș, 2012), starting from the elements that stir their interest and the almost obsessive tendency to express themselves through the artistic and plastic language (Davido, 2017), drawing seems to have a good potential to be explored in integrated teaching, contributing to the optimization of learning.

The plastic language (Botez & Solovăstru, 2008) consists of elements and means that can easily be matched with mathematical notions (point, line, shape, volume), with physical notions (spectral decomposition of light), with semantics (sense, significance, etc.). The techniques and materials underlying plastic imaging (Cioca, 2007) can also be correlated with information from fields such as natural sciences, geography, physics, chemistry. The complexity of approaching a plastic image creates a feasible context for an integrated type of activity.

## 2. Purpose of the study

Elaborating an artistic image lies between science and art and the finished product is considered to belong to art. The confluence of many areas in drawing / painting makes it possible to use the plastic image as a structure for crystallizing many notions from a complex set of disciplines. Considering this aspect, this study started from the premise that the

optimization of school performance can be achieved by the interdisciplinary teaching of artistic and plastic activities.

### 3. Method

#### 3.1. Sample and procedure

The investigation was carried out on a group of pupils in the second grade, coming from The Aron Pumnul Cuciulata Gymnasium School (the experimental group) and Crihalma Gymnasium School (the control group). The experimental group consisted of 16 respondents (9 boys and 7 girls) and the control group, of 13 respondents (8 girls and 5 boys). Respondents from both groups come from disadvantaged backgrounds with poor educational conditions. From the analysis of the school documents it was found that the two groups were homogenous in terms of performance in skills development.

#### 3.2. Material and Methods

The methods used in the investigative approach were:

1. Tests for measuring school performance with different degrees of difficulty, in the pre-test and post-test phases. The tests included: 10 items regarding visual arts and crafts (2 items), communication in Romanian (4 items) and Mathematics and Sciences (4 items); performance descriptors; scoring grid on a scale of 0 to 30 points, 3 points for each item, on three levels: 1 sufficient, 2 good, 3 very good.
2. Product Analysis Grid - drawing; structured on 5 dimensions of 3 indicators each (dimensions: execution, artistic plasticity, dexterity, artistic expressiveness, accuracy); scale of 0-5 points.
3. Didactic experiment (42 interdisciplinary artistic and plastic activities, observing the curriculum of visual arts and crafts). In the design of each activity, both the teaching objectives and the research objectives were considered.
4. Study of documents - to monitor school performance results.
5. Study of students' individual portfolios.

### 4. Findings and results

The results obtained in the pre-test phase are shown in Table 1. The maximum points for an item are 3 points, on three levels: 1 - sufficient, 2 - good, 3 - very good. The maximum points per item for the experimental group, where N = 16, is 48 points. The maximum points per item for the control group, where N = 13, is 39 points.

From the analysis of the data obtained, we found that the two groups were homogenous, with a slightly higher level for the control group (at a difference of means of 0.4 - the mean for the pre-test for the experimental group was 1.62, while the mean on the pre-test for the control group was 2.02).

Table 1. Synthetic table with the results obtained in pre-test, for the experimental group and the control group

Items	Experimental group			Control group		
	Points / group	Percent	Mean	Points / group	Percent	Mean
Item 1	32	66.67%	2,00	27	69.23%	2,07

Item 2	32	66.67%	2,00	25	64.10%	1,92
Item 3	25	52.08%	1,56	21	53.85%	1,61
Item 4	28	58.33%	1,75	22	56.41%	1,69
Item 5	27	56.25%	1,68	24	61.54%	1,84
Item 6	22	45.83%	1,37	20	51.28%	1,53
Item 7	21	43.75%	1,31	19	48.72%	1,46
Item 8	26	54.17%	1,62	24	61.54%	1,84
Item 9	23	47.92%	1,43	19	48.72%	1,46
Item 10	25	52.08%	1,56	20	51.28%	1,53

The results obtained in the post-test are shown in Table 2. The maximum points for an item are 3 points, on three levels: 1- sufficient, 2 - good, 3- very good. The maximum points per item for the experimental group, where N = 16, is 48 points. The maximum points per item for the control group, where N = 13, is 39 points.

From the analysis of the obtained data, we can see that now there are differences between the two groups, with a slightly higher level for experimental group this time (at a difference of means of 0.37 points more for the experimental group; the mean on the post-test for the experimental group is 1.84, while for the control group is 1.47).

Table 2. Synthetic table with the results obtained in post-test, for the experimental group and the control group

Items	Experimental group			Control group		
	Points / group	Percent	Points / group	Points / group	Percent	Points / group
Item 1	33	68.75%	2,06	27	69.23%	2,07
Item 2	35	72.92%	2,18	22	56.41%	1,69
Item 3	34	70.83%	2,12	18	46.15%	1,38
Item 4	29	60.42%	1,81	15	38.46%	1,15
Item 5	31	64.58%	1,93	11	28.21%	0,84
Item 6	24	50.00%	1,50	16	41.03%	1,23
Item 7	26	54.17%	1,62	22	56.41%	1,69
Item 8	32	66.67%	2,00	17	43.59%	1,30
Item 9	27	56.25%	1,68	24	61.54%	1,84
Item 10	25	50.00%	1,56	20	51.28%	1,53

The drop-in performance for the control group in the post-test phase demonstrates the difficulty in acquiring new competencies according to the second-grade curriculum. The difference is significant, in a negative sense, between pre-test and post-test for the results of the control group results.

In the experimental group there is a breakthrough between the results of the two tests, a progress which can be attributed to the experimental intervention in this group.

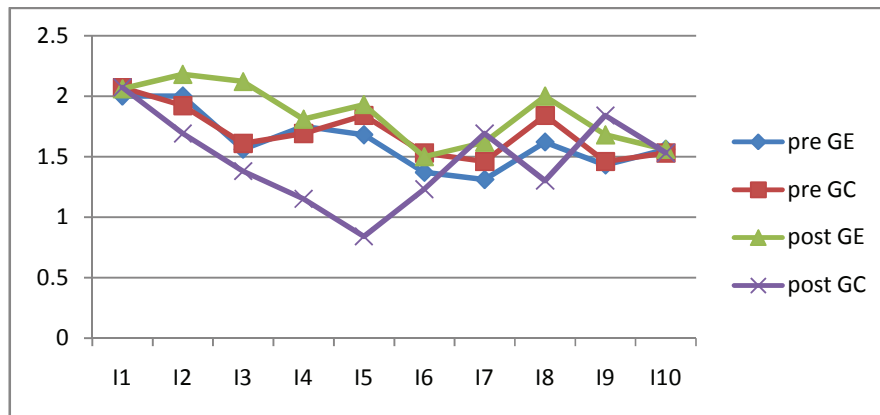


Fig. 1 – Comparison of the pre-test and post-test results, for the experimental group and the control group

## 5. Conclusions and Discussion

The rhythm of acquisitions was not a spectacular one. The control group had even regressed, which led us to believe that the difficulty of assimilating new knowledge caused this. Probably the same phenomenon would have happened to the experimental group, given that the two groups were homogenous at the beginning of the investigation (both from the socio-economic and the educational points of view).

After analysing and interpreting the data, even if the differences are not strongly significant, we can say that the optimization of school performances has been achieved as a result of the experimental-ameliorative research. Interdisciplinary teaching of artistic and plastic activities can be an option for optimizing the learning process.

## References

- Bocoș, M., Chiș, V. (2012). *Abordarea integrată a conținuturilor curriculare, particularizări pentru învățământul primar. (Integrated approach of the curricular content, customization for primary school)*. Cluj-Napoca: Ed. Casa Cărții de Știință
- Botez, Georgeta Augusta, Solovastru, Dana (2008). *Atlas cu elemente de limbaj plastic pentru învățământul primar (Atlas of plastic language elements for primary school)*. București : Editura DACIA
- Cioca, Vasile (2007). *Imaginea și creativitatea vizual-plastică (Image and visual-plastic creativity)*. Cluj-Napoca : Editura Limes
- Ciolan, Lucian (2008). *Învățarea integrată. Fundamente pentru un curriculum transdisciplinar (Integrated learning. Fundamentals for a transdisciplinary curriculum)*. Iași: Editura Polirom.
- Davido, Roseline (2017). *Cum să-ți descoperi copilul prin desenele lui (How to discover your child through their drawings ?)*. București: Ed. Univers
- Norel, Mariana (2010). *Metodica predării limbii și literaturii române în învățământul primar (Methodology of Teaching Romanian Language and Literature in Primary School)*. Brașov : Ed. Univ. Transilvania. Curs ID
- Velicu, Georgiana (2016). *Aspecte psihopedagogice și metodologice la disciplina matematică pentru ciclul primar și preșcolar (Psycho-pedagogical and methodological aspects of mathematics for primary school and pre-school)*. Târgoviște: Bibliotheca.
- \*\*\* ICOS Report (<http://www.icos-edu.ro/download/raport-de-cercetare-ICOS.pdf>)
- \*\*\* UNESCO. *Reunion sur la methodologie de la reforme des programmes scolaires*, Doc. ED. 76/Conf. 640/3, pag. 18