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Creativity as a Support for Social Inclusion in Children with Special Educational Needs

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Abstract

The inclusion of children with special educational needs has to be based on all modalities that are accessible to them and that support them in achieving a good life. We will try to demonstrate the importance of developing creative skills to support the learning process by using the 3D model of psycho-pedagogical approach. Stimulating creativity as a process can directly and positively influence the motivation for independent learning, and indirectly facilitate the process of social inclusion. We will use several methods that teachers can apply in the classroom in order to demonstrate this link, mainly using the personalized intervention plan for children with special educational needs.

Keywords: Inclusion, creativity, support, children with special needs

Introduction

Al. Roșca describes creativity as an accumulation of subjective and objective factors that lead the individual towards the construction of an "original product", with or without value (Roșca, 1981, apud Popescu, 2007, p. 7), while Mihaela Roco (2001) identifies creativity with the idea of "social need" and attributes to it a formative role in education. However, W. Duff points out that certain traits in the sphere of creativity in children (spontaneity, associativity, curiosity) can only be achieved or attained by those with exceptional potential (Roco, 2001, p. 15).

According to Robinson, creativity "is not just an internal mental process, but involves action, playing with words and objects and their original representation" (Seach, 2007, p. 165).

For Michel and Bernadette Fustier, this concept remains vague and inaccurate, because in order to achieve something innovative or with high creative potential, a person will always appeal to something that already exists or he/she tries even to relate to previous scientific discoveries (Roco, 2001).

In order to determine the children's level of creativity, psychometric testing is required. Although some researchers have argued over the years that some creativity tests are not significant in determining creativity levels, they are of particular importance in H. Gardner's view, which defines seven competencies that underlie creativity development: linguistic, logical-mathematical, spatial, kinesthetic, musical, interpersonal, and intrapersonal (Roco, 2001).

The psychometric model can be disadvantageous for pupils with CES, especially for those with "temperamental slowness" (Popescu, 2007) or language difficulties, such as the Guilford battery, which includes only verbal tests with limited administration time.

Viewed from a holistic perspective, the creativity approach is also passed through the filter of H. Gardner, who stated that creative factors can manifest themselves multipersonally (Cucoș, 1996).

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The subpersonal level refers to the biological resources of creativity, and nowadays neurobiology studies the genetics of people who have superior creative capacities, comparing them with those of ordinary people, but it also deals with the study of the evolution of metabolic and neurochemical processes in the aforementioned people, as well as in the elderly ones (Roco, 2001).

At the personal level, cognitive factors intersect with those that reflect the individual's motivation and personality.

The intrapersonal stage looks at the characteristics of the individual as manifested in their work field.

The multipersonal level refers to the social context in which a person develops his/her creativity and his/her evolution in relation to the cultural environment in which he/she lives.

The block that a pupil with special educational needs may encounter in the learning process may also be due to other factors, such as environmental ones, social ones, the level of difficulty of the teaching materials, and may even be influenced by the competence of the teacher, as mentioned by C. Cucoș, while he was referring to the intellectual, aptitudinal, character and motivational capacities of the teacher, which can easily be translated into the perception and level of involvement of the pupil in the act of learning, thus stimulating his intrinsic motivation (Cucoș, 1996).

Our intervention is also based on highlighting learning styles that have an important influence on the development of interventions for children with special educational needs. Thus, according to Agape and his collaborators (2015), learning styles are defined as "personal dispositions" that influence the student's ability to acquire information, interact with colleagues and teachers, and participate in learning experiences. According to A. F. Grasha, these personal dispositions are embodied in: motives, perceptive abilities, ways of processing information, preferences for a certain sensory modality, social relationships, and the characteristics of the physical environment (Agape et al., 2015, p. 6).

Teachers can contribute to the development of students' creativity by adopting strategies that not only stimulate their creative potential but also increase their implication in school activities; some of these useful strategies are: encouraging pupils to ask questions, restraining the factors that can produce frustration, stimulating communication through discussions and debates (pupil-pupil, pupil-teacher), cultivating spontaneity and cognitive independence, promoting access to knowledge through reflection (Oprea, 2007).

Method

We aim to investigate the facilitation of the inclusion process in mainstream education of children with special educational needs, through the development of interest in independent learning, passed through the filter of stimulating creativity. As working hypotheses, we started from the assumption that following the application of an intervention program in which we used creative methods (based on the perceptive style of each child) we will record a significant increase in the level of creativity and motivation for learning in pupils with special needs integrated into mainstream school. Starting from the psycho-pedagogical model developed by Campione and Brown in 1979 adapted to provide pupils with difficulties with the opportunity of appropriating over a long period of time the notions learnt at school, but also of solving certain difficult or seemingly impossible work tasks, we set out to develop a complex plan to stimulate motivation for learning, based on the creative potential of pupils with special educational needs.

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Thus, in the hereby study, we have identified the learning difficulties of children by applying both direct and indirect evaluation methods: the observation method through which the working techniques and the involvement in the learning tasks were followed, the method of self-assessment of the learning organization capacity, the method of analyzing the students' school evolution by assembling the results obtained from their initial and summative evaluations.

SMALSI is a self-assessment questionnaire, which was designed to assess 10 constructs that are associated with school motivation and learning strategies: seven of them focus on students' strengths (STUDYING, TAKING NOTES, READING, WRITING, TEST, ORG, TIME), and three of them highlight their weaknesses (MOTSCA, DIFCON, TANX). We used in the present study the form targeting subjects aged 13-18. It contains 170 items that can be completed very easily by most of them in about 20-30 min.

The MOTSCA scale evaluates the student's academic motivation, which is often influenced by a variety of factors within and outside the school environment, such as family environment.

Students who score high on this scale are those who have a low level of motivation to succeed in school tasks, compared to those at the opposite end of the scale, who scored low. In a preliminary step we distributed the questionnaire "What is your creativity factor?" in order to investigate the level of creativity each subject had before starting to apply the creativity program.

The evaluation instrument is designed based on ten items containing statements about skills, actions or behaviors, and for each statement, the subjects are asked to give a score from 1 to 10. The questionnaire is easy to complete both in terms of time and item structure.

The total score is obtained by summing up all the marks of the 10 items, this being the creativity index or coefficient, which is scored with CQ and can have values between 10 and 100.

In the process of stimulating creativity, the development of each segment or "atom" of the heuristic structure which works together to enthusiastically discover new passions and interests will be taken into account; so, starting from the model of the six heuristics (fig. A. - "The square of heuristics") that belongs to Mihai Golu and that highlights several operational structures that can be complementary in the process of creative stimulation, we focused on the students' interests and their thinking to prepare the ground of memory in order to preserve for a longer period of time the message that can be effectively reactivated in different contexts (Moraru, 1997, p. 27-28).

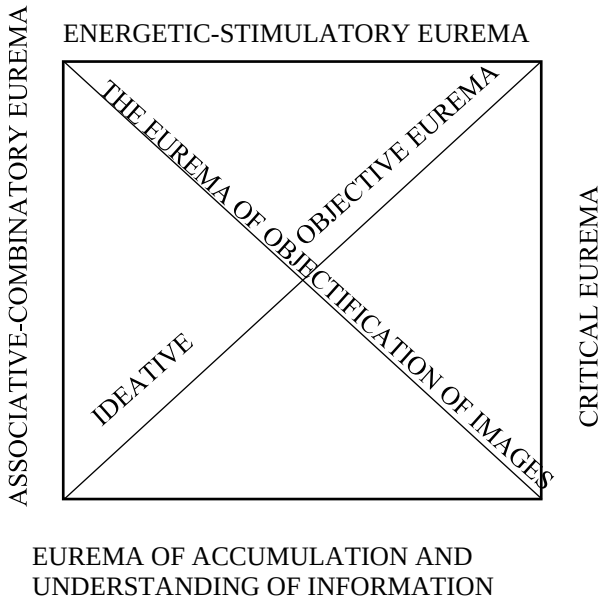

Fig. A. Model of fundamental heuristic structures; The Square of heuristics (Golu, 1972 apud. Moraru, 1997)

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Using the eurema of information accumulation and comprehension as an inspirational source, we have inserted into the work activities exercises containing questions or tasks shared in the form of tables, with or without answer options, so that the message can be sorted, stored and processed at the level of thought and then easily revisited when necessary.

The scientific research was carried out over one year, during which time 30 children with special needs children were selected, 9 girls and 21 boys, from the 7th and 8th grades, integrated into mainstream schools: "Vasile Alecsandri" Secondary School, "Ecaterina Teodoroiu" Secondary School and "Ana Aslan" National College in Brăila.

Findings and discussion

For the learning motivation variable in the pre-test stage, the distribution of subjects was made according to the four defining classes of motivational level, as follows:

Most of the subjects (17) developed a medium motivational level, while 8 of them were very well developed, three had an extremely well-developed level of learning motivation, and two of them fell into the below medium developed category.

This graphical distribution can be seen in the representation of pupils' level of motivation for learning in the pre-test phase (Figure 1):

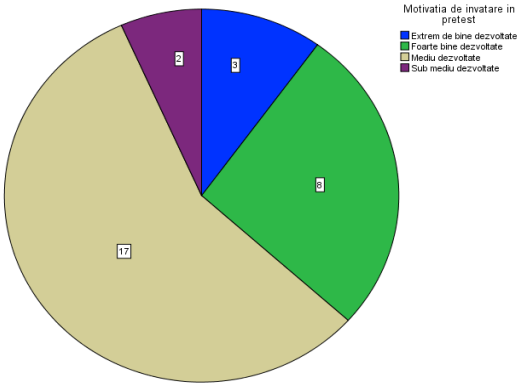

Figure 1. Graphical representation of motivation for learning in the pre-test stage

When scoring the creativity index or coefficient for the pupils participating in the experiment, a percentage of 56.67% was obtained for those who are as creative as the vast majority of people, a score of 26.67% for the subjects with a low level of creativity and a percentage of 16.67% represented by students with a high level of creativity (very creative).

The distribution of pupils according to the level of creativity obtained can be seen in the graphical representation in Figure 2:

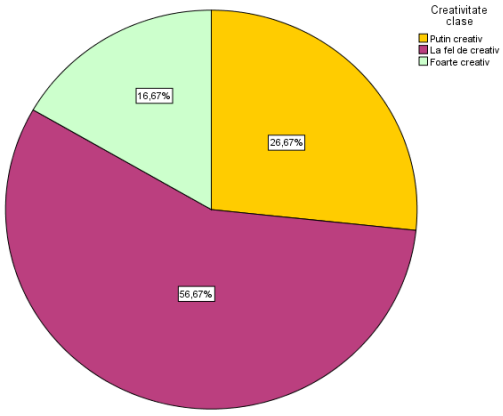

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Figure 2. Graphical representation of the level of creativity in the pre-test stage

By comparing the statistical data obtained from the analysis of the relationship between the level of creativity and the motivation for learning of the subjects in the pretest stage, it can be seen, according to Table 1. that for a mean of 55 there were minimum values of 25 points in determining the level of creativity, which means that they are less creative; and a maximum number of subjects who had a score of 82 points which is associated with a high level of creativity (very creative), the distribution being on a median of 51 with a standard deviation of 15.4.

In the case of the respondents for whom the level of learning motivation was tested in the pretest stage, a mean of 55 was obtained for which a minimum of 35 points was obtained on the MOTSCA scale, i.e. a below average level of development which reveals above average listening and attention skills during lessons, and a maximum of 76 points which is associated with the qualitative descriptor "extremely well developed", which indicates major problems of attention and concentration with regard to activities during lessons or other school tasks, the distribution being on a median of 52.2, with a standard deviation of 11.4.

Statistics

		Coeficientul de creativitate	Motsca
N	Valid	30	30
	Missing	0	0
Mean		51,87	55,33
Median		51,00	52,50
Std. Deviation		15,407	11,451
Minimum		25	35
Maximum		82	76

Table 1. The relationship between the level of creativity and motivation for learning of subjects in the pre-test stage

Following the analysis of the relationship between motivation for learning and the level of creativity in the retest phase of the pupils, according to the statistical data in Table 2, it can be observed that there is a mean of 51 subjects with a minimum score of 25 points of the creativity coefficient which is associated with a low level of creativity, while the maximum score of 82 indicates a high level of creativity, the distribution being a median of 51 with a standard deviation of 15.4.

Statistics

		Coeficientul de creativitate	Motsca
N	Valid	30	30
	Missing	0	0
Mean		51,87	55,33
Median		51,00	52,50
Std. Deviation		15,407	11,451
Minimum		25	35
Maximum		82	76

Table 2. The relationship between the level of creativity and motivation for learning of subjects in the retest stage

Comparative analysis of the results obtained in the two phases of testing

According to the descriptive analysis by means of the variables in the test phase and the ones in the retest phase, we can observe improvements after going through the psycho-pedagogical intervention plan, thus:

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Regarding *the level of motivation for learning*, a slight decrease in the mean is observed from 55.33 to 42.80 which means that the subjects can go from an average motivation to succeed in school to an above average motivation in this respect.

Looking *at the creativity coefficient*, a significant difference can be noticed by increasing the mean from 51.87 to 63.13, this change being possible through the stimulation of creativity so that students can go from a level of creativity that is the same as the majority of people can have to an above average level, some subjects even becoming very creative.

For the motivational level, the Pearson correlation coefficient in the pretest is .471 compared to .567 in the retest, which means that there is a highly significant correlation with a significance level of $p<0.05$.

Regarding the creativity coefficient, the Pearson correlation in the pretest has a value of -.279 and the retest correlation is -.300, which means that the two values of the correlation coefficient do not correlate significantly with a significance threshold p with a value outside the reference range (-1,+1).

As can also be seen from Tables 3 and 4, there are statistically significant differences between the pretest and retest phases in terms of the creativity and learning motivation coefficients.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Creativity coefficient	51,87	30	15,407	2,813
	Creativity score at retest	63,13	30	13,541	2,472
Pair 2	Motsca	55,33	30	11,451	2,091
	MOTSCA score ar retest	42,80	30	10,417	1,902

Table 3 Statistical analysis of the scores obtained in both test stages for the pair of variables creativity-motivation for learning coefficient

		N	Correlation	Sig.
Pair 1	Creativity coefficient & Creativity score at retest	30	,890	,000
Pair 2	Motsca & MOTSCA score at retest	30	,851	,000

Table 4. Paired sample correlations for creativity and learning motivation in pretest/retest

Following the application of specific techniques to stimulate the creativity of pupils with CES, their effectiveness can be noted by the strong positive correlation between the creativity coefficient and learning motivation with a significance threshold of .00 for $p<0.05$.

Conclusion

The information presented in this paper as a result of the scientific research reveals that significant results can be achieved in terms of the stages of intervention on the development of

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creativity of children with special educational needs, by increasing motivation for independent learning, facilitating in this way the process of integration into mainstream education.

The psycho-pedagogical intervention strategies were therefore effective in achieving the aim of the present research and I can conclude that following the SMART model in the process of supporting children in setting short-term goals had a satisfactory impact on their academic results, but also in the fact that they were able to develop greater confidence in their own abilities.

Also, to add to that, going through the entire psycho-educational intervention program proved to be a reason for personal satisfaction in relation to the effort made throughout the experimental approach and I can recommend teachers working with children with CES to follow the model of fundamental heuristic structures in the construction of future work tasks (Golu, 1972 apud. Moraru, 1997) which has multiple benefits on the development of their creativity by: making materials that they can use in the stage of deepening and assimilating information and even in the evaluation stage, thus giving them the opportunity to "play" with the different knowledge they have acquired and which they can apply in different contexts, by stimulating critical thinking, by converting images into ideas, but also by creating micro-groups in which pupils with CES can work together with normal children so that their school motivation increases and their level of emotionality decreases, so that this socio-emotional development makes it easier for them to adapt to the contemporary school classroom.

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