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CHILDREN'S CREATIVITY IN KINDERGARTENS

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Abstract

The paper deals with discovery of children's creativity in kindergartens and finds out creativity of children in kindergartens due to creative education and compare tests' results in selected groups. Research goal is to find out development of children's creativity in kindergartens due to creative education. Also to compare tests' results of creative thinking in selected indexes and in selected groups of kindergarten children and to reveal reserves in preschool education. Research study brings qualitative comparative survey, where two tests of creative thinking have been used: Torrance and Urban Test of creative thinking in measurement of experimental and control groups of kindergarten children. Gained data is processed by descriptive methods and correlations. Urban's test of creative thinking had been applied as a pre-test and a post-test. Research revealed significant results in development of kindergarten children's creativity due to carried out tests of creative thinking. Differences have been seen in development of children's creativity in experimental and control groups, where education is more or less focused on creativity development and creative drama. Results highlight reserves and hidden opportunities in development of creativity in preschool education. Research study confirms results of preschool children's creativity tests, where higher results were seen in creativity in experimental groups in comparison with control groups of kindergartens. The pre-test and post-test's results document the meaning of creativity implementation. Research will contribute to creativity increase in education and at the same time will influence kindergarten educators' training in a positive way.

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1. Introduction

Modern concept of preschool education envisages strengthening of children's creativity development in kindergartens. Appropriate conditions are being made for creative education in forms of activating methods, personal respect for child, creating a social climate, applying experimental and cooperative learning, pleasure from discovering and searching and using a play as a method. For systematic support of children's creativity development in kindergartens is recommended to apply creative methods, specific didactic procedures and effective means of creative thinking development. Košek Bartošová (2016) states that contemporary education is trying to modify conditions of the teaching process so that they reflect the most recent time and demands which are imposed on everyone. Currently significant influence is use of technical achievements, e.g. interactive boards, textbooks, tablets and other teaching aids in school.

Creative educator is fully aware of a great potential of children's creativity already at preschool age and tries to develop it in everyday activities. S/he searches for ways, possibilities and new challenges how to let creative display and at the same time support development of creative approaches. There is everyday possibility for application and development of creative approaches in kindergartens. Creative drama might be one of them. It offers a specific system of methods and techniques' applications focused more likely on practical activity, activity development and creative thinking. Creative drama is appropriate inspiration how to enrich preschool education and to intensify the development of children's creativity.

2. Theoretical Basis

Creativity has been concerned with many studies, on their basis Claxton and Lucas (2011) defined so called habits of thinking as essential attributes of creativity. According to them creativity can be defined through these five habits of mind/thinking and their subgroups:

- *Search for knowledge* (thinking, having doubts and questioning; research and investigation; questioning surmises)
- *endurance* (coping with self-consciousness; determination not to give up in a trouble; courage to be different),
- *imagination* (playing with possibilities; creating contexts; use of intuition),
- *discipline* (creation and being better; development of techniques; critical reflection),
- *cooperation* (appropriate cooperation; giving and accepting feedback; sharing "produced"/share "outputs).

Search for knowledge, imagination, discipline and an ability to cooperate create the core of creativity development in kindergartens and mainly imagination and search for knowledge are effective thanks to application of creative drama. System of creative drama contains a great potential supporting creativity development and deserves great attention in education of nursery schools. Kropáčková (2012) argues that nursery educators can develop creativity. First of all children's creativity should respect and appreciate the efforts and success of each child. Petrová (1999) quotes Jean Piaget, that the main aim of upbringing and education is preparation of people

who are able to do new things, not only to repeat what other generation had done – creative people, resourceful, discovering. Second aim of upbringing and education is to form thinking, which should be critical, able to verify not to accept everything that had been offered.

In today's world full of information, changing data, new knowledge, and creativity is one of the most important ability to take on the life. It is necessary to adapt to new conditions, which is greatly facilitated by creative thinking (Fichnová, Szobiová, 2007). Dacey, Lennon (2000, p. 17) made a model of creative process that highlights five sources of creative abilities:

- *Biological features – micro neurons, hormones, IQ, determining genes, dominant hemisphere, coordination between hemispheres.*
- *Personality features – tolerance to bilingualism, willingness to take risks,*
- *Cognitive features – e.g. distant associations, lateral thinking.*
- *Micro-social circumstances – family relationships, friends, and a type of living.*
- *Macro-social circumstances – locality, work, education, ethnical, religious, legal, economic environment.*

3. Research Questions Creative Programs and Tests of Creativity Development

From the pedagogical and psychological point of view there are a great number of stimulation programs in order to develop creativity. Programs use creative methods, principles, divergent tasks, brainstorming, heuristic questions and methods to problems solving, stimuli for development of figurative movement creativity etc. To measure creativity most interesting for us was the Torrance and Urban Figural Test of Creative Thinking.

- Torrance Thinking Creative Test (TTCT) determines level of figurative creativity. The test is contained of three tasks. The first one is called “Picture creation” and consists of tasks to complete a glued piece of coloured paper in the shape of a “bean” into an original picture. The second part of Torrance test is called “Incomplete figures” and two pages are divided into ten squares. Each square contains incomplete figures, which are completed by children according to their fantasy; the task is to name the picture. The third part is called “Circles” and contains 36 circles; children should finish in pictures and name them. The test evaluates fluency, flexibility, originality and elaboration.

- Urban Figural Test of Creative Thinking monitors personal and cognitive component of personality. The task is to arbitrarily complete lines already outlined in a pattern and to complete a drawing which will reveal child's creative potential.

Creative activity is of great importance for development of cognitive, intellectual abilities and overall versatile personality development. For measurement of creativity factors and creative abilities Lokša, Lokšová, (1999) (Pecina, 2008) state following:

- Fluency – ability to find, produce a number of ideas, imaginations and solving suggestions. According to Pecina (2008, pp. 19 - 21) fluency can be divided into:
 - “verbal” – occurs in types of tasks: Within one minute name as many words starting with B.
 - “figural” – for example uses a tangram

- “associational”– types of tasks: Write down, find out as many words of similar meaning such as living.

- “expressional“ – the answer is compiled from several parts, a task such as Complete a sentence: Tea is hot as ... or we look for a comparison: She looks at me as ...

- “mental alertness“ – ability to think of more thoughts in one certain situation, types of tasks: Think of as many ideas how to use a hat, a brick,

➤ Flexibility – ability to react flexibly, easily and fast find out new, diverse solutions, to look at a problem from different angles, ability to get rid of common solutions.

➤ Originality – ability to produce numbers of unusual, non-traditional ideas, thoughts and solutions.

➤ Sensitivity – sensitivity to problems, issue situations, ability to reveal a problem, to see weaknesses and opportunities for improvement.

➤ Redefinition – ability to use old information and knowledge in a new way, to create a new arrangement of relationships, to move from established ways to new ones, original, unconventional.

➤ Elaboration – ability to expand a thought, to find out, add functional details, create comprehensive solutions.

The new concept of preschool education predetermines creative education in kindergartens which can influence the child’s creativity development. Important fact is to understand methodologically and to be able to apply professionally specific didactic procedures, where activating methods and means are coherently used, which contain problematic, creative approach directly through gaining and knowledge acquisition in preschool education.

An intervention program with an intensive use of methods and techniques of creative drama has been created with the intention to point out the possibilities and effectiveness of creative education.

- Intervention program with the focus on creative drama

In an experimental group there was an intervention program implemented deliberately with the focus on creative drama. There is also an intensive attention paid to children development in all forms, whether these are art activities, development of independent development of children, solving of problem solutions or story making. Children are given sufficient space for their activities. During activities methods and techniques of creative drama are used. Experimental and situational learning is preferred. Almost all activities happen to be in groups, while children’s communicative and social competence is supported. There is a large sheet of paper most frequently used in plans of creative activities together, constructive group work from different material, a role play, story completion, improvisation, narrative pantomime, hearing games and group discussions about different topics.

In pedagogical work the most important fact is to be able to apply systematically, thoughtfully and professionally activating creative methods together with friendly communication in a democratic style. The subject of our research was the impact of activating methods in form of drama. |

4. Specific Research and Problem Statement

The issue of research survey is represented by gaps in support of children's creativity in kindergartens. The research aims was to address nursery schools which significantly and systematically apply creative drama in education and to find out if their intervention program in terms of creative drama has a greater effect in development of children's creativity in comparison with classrooms where creative drama is not applied. Development through creative drama is not appreciated enough and therefore the potential of creative drama deserves more attention through research survey where it can support mind and meaning of creative drama application as a system in preschool education.

The project of specific research follows up already implemented project in 2016, where the results did not clearly reveal a deeper understanding of creative drama in educators and its application in education with a significant influence on the development of children's creativity.

Research goal:

The research goal is to find out development of children's creativity in kindergartens due to creative education and to reflect a contemporary status. Compare tests' results of creative thinking in selected indicators and in selected groups of kindergarten children and thus reveal certain reserves in preschool education.

Specification of goals:

1. To find out development of children's creative thinking in kindergartens where creative drama is systematically applied in education (with method and technique comprehension) and to compare it with children in kindergarten classroom where creative drama is not applied.

2. To determine the fact if there is a certain shift/change in development of children's creativity based on intensive implementation of creative drama in kindergarten education.

Secondary objectives: to develop professional abilities of female students for implementation of scientific research projects such as social psychological skills while working in a fieldwork – mainly during testing of children, evaluation of creative thinking tests and professional knowledge during data processing. Participate in research results presentation on an international scientific conference.

Solution process: there was a choice of two tests for studying local and foreign material dedicated to an issue of measurement of creativity. In order to specify methodological process there was a creativity test used with children of selected groups. For objective tests' evaluation there were two test psychologists invited who evaluated individual tasks of conducted tests. There were addressed groups of children from four kindergarten classrooms for the pilotage, namely two classrooms where intervention program of creative drama is applied and two classrooms with common education program – where creative drama is not implemented.

5. Research Questions

1. Do differences in development of children's creativity at preschool age exist, where creative education is present or not in drama education?

2. Will the differences in both creativity tests be confirmed?

6. Selected Research Results

In this chapter there are selected results which are interesting and certainly will lead to an expected discussion.

6.1. Results of Torrance Test of Creative Thinking

Table 01. Results of Torrance Test of Creative Thinking

Creativity factors	Originality (points)	Elaboration (points)	Creativity (total points)
Experimental group	239	224	463
Control group	144	108	252
Difference in points	95	116	211

Commentary: Table No. 1 shows results of Torrance test at experimental and control group of respondents – kindergarten children. Significant tests' results have shown originality and elaboration. The experimental group gained out of three tasks 239 points for originality and for elaboration 224 points, in total gained 463 points for creativity. The control group gained 144 points for originality and for elaboration 108 points, in total gained 252 points for creativity. The difference in measurement between experimental and control group is represented by 211 points, which is a significant difference between groups. Listed results show higher development of creativity in children of experimental group in connection with implemented intervention program focused on creative drama application in comparison with control group where the program of creative drama was not applied.

Here is an example of a completed Torrance Test of Creative Thinking:

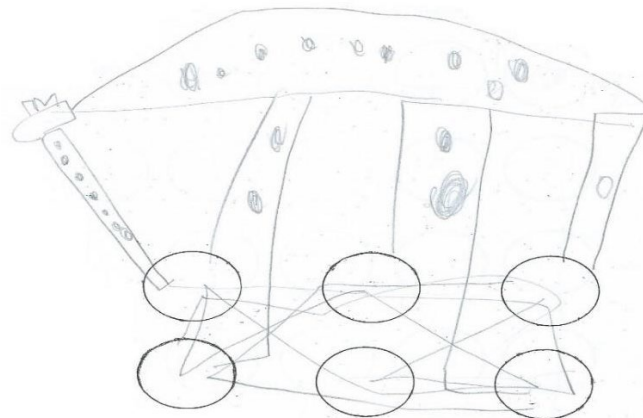


Figure 01. An example of a completed Torrance test with a title "A Giraffe tent".

6.2. Results of Urban Figural Test of Creative Thinking

Table 02. Results of Urban Test of Creative Thinking – Pre-test and Post-test – Kindergarten 1

Urban test Kindergarten 1	Points in Pre -Test	Points in Post -Test	Difference – increase or decrease
Experimental group	144	247	+ 103
Control group	147	111	-36

Commentary: Table No.2 brings results from Urban test of creative thinking, which was conducted with children in Kindergarten 1 in an experimental group before the initial start of intervention program implementation focused on creative drama as Pre-test children gained 144 points. After completion of intervention program in the experimental group the measurement was repeated as a Post-test with an increase of 103 points. The table shows comparison of results with the control group where the intervention program was not implemented and where children gained 147 points at the beginning of the measurement and after three months there was a decrease of 36 points. The results point out to the immense importance of intervention educational program focused on creativity development of kindergarten children.

Table 03. Results of Urban Test of Creative Thinking – Pre-test and Post-test – Kindergarten 2

Urban test Kindergarten 2	Points in Pre -Test	Points in Post -Test	Difference – increase or decrease
Experimental group	108	261	+ 153
Control group	179	90	-89

Commentary: Table No. 3 brings results of Urban test of creative thinking which was implemented in the Kindergarten 2 in an experimental group before the start of intervention program focused on creativity development as a Pre-test and children gained 108 points. After completion of the intervention program in the experimental group the measurement was repeated as a Post-test with 261 points and with an increase of 103 points. The table shows results' comparison with the control group, where the intervention program was not applied and where children gained 179 points at the beginning and after three months there was a decrease of 89 points. Results point out a great importance of intervention education program focused on creativity development of kindergarten children.

Here is an example of a completed Urban test of creative thinking with a title: "A haunted castle and a ghost"

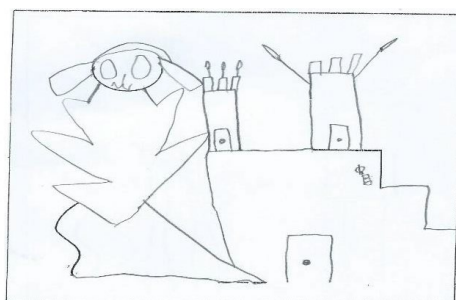


Figure 02. An example of a completed Urban test with a title "Haunted castle and a ghost".

7. Research Methods

Experiment, standardized Urban test of creative thinking, Torrance test of creativity. Obtained data have been processed with the help of descriptive methods and correlations in NCSS10.

Research sample: The research sample consisted of kindergarten children where creative drama is intensively applied in education (experimental groups) and children where creative drama is not applied in education (control groups). Predicted number of respondents: approx. 120 (pilotage 64).

8. Findings

Research survey focused on discovering the development of children's creativity in kindergartens has brought remarkable results. Tests of creative thinking have been compared with selected indicators of children's groups in kindergartens. In the experimental group of children there was the intervention program implemented with the focus on creative drama where was a higher creativity found in comparison with the control group both in Terrence test and Urban test. At the same time we are fully aware of the fact that there are also other factors mentioned in professional papers which participate in creativity development.

Research study has shown its importance and influence of creative education to develop children's creativity at preschool age and pointed to reserves in preschool education. It proves the sense of greater application of educational programs aimed at the development of creativity in the form of creative drama.

9. Conclusion

The presented results are so interesting that they will influence further nursery school teachers' education mainly in preparation of more creative programs based on methods and techniques of drama education. The research study has brought very important results for further continuous process in promotion of a greater emphasis on creativity development in kindergarten children. Significant differences in results of creativity development will help as arguments for application of creative educational programs, methods and approaches in preschool education and appreciation of methods and techniques of drama education in kindergarten's education.

The results the carried out research might become an impulse for further creativity development's measurement in a greater extend both in kindergarten children and their educators. We believe that data provided will lead to necessary discussion on the effectiveness of the educational program with a view of changes in a quality of preschool education in nursery school.

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