Stimulating Children's Creativity Using the Pragmatic Approach

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ABSTRACT

There are some intriguing findings at K-2, Lab. School UPI District Campus Cibiru. Besides the unmanaged children's creativity, there are children who's withdown syndrome. The other, having difficulties interacting with them, frequently showing aggressive behaviors towards one another and disrupting the class. The stimulation of creative cognitive skill and the application of the pragmatic approach to creativity within the Elliot's model of action research [1] aimed to solve those problems and is predicted that it will encourage children's overall development. As the result of the treatments, the average children's development reach 2.78 points in the 1st cycle, 2.69 in the 2nd, and 2.81 in the 3rd. Whereas the average occurrence of creative cognitive reach 1,15 points in the 1st cycle, 1,03 in the 2nd, and 1,04 in the 3rd. Even though both variables statistically don't have good correlations, the pragmatic approach to creativity is having some complementary effects on both variables. In conclusion, the pragmatic approach to creativity is somewhat successful to stimulate children's creative cognitive skills and encourage their overall development.

Keywords: *Pragmatic approach to creativity, creative cognitive abilities, children developmental aspect*

1. INTRODUCTION

The Action Research was driven by the intricate problems of the children's developmental problems that sometimes disrupts their learning process. There are two out of sixteen children that have down syndrome. Thus according to the teacher, what happen in the class often creates a major obstacle in their social-emotional development that later on can halt their overall development. Furthermore, that was not the only problem that occurs in the class. There are some children whose age is younger than the normal standard of K-2 children, was occasionally also have some difficulties in their learning process.

The creative cognitive skills, as stated by Rogaten and Moneta (2016) is known for their role in making some impacts on intrinsic motivation and flow. Besides what was known about the intrinsic motivation, flow is a definition of how well one can focus and endure the task. Rogaten and Moneta (2016) also cited a statement from Csikszentmihalyi that made a further description of the definition of "Flow" as not only task absorption but also the form of cognitive efficiency, and some deep intrinsic motivations that makes a person feel integrated within their activity. From those statements it is clear that creative cognitive is an important aspect to support the children's development.

The action research is carried out by applying the pragmatic approach to creativity within some creative projects. The pragmatic approach to creativity, as stated by Lin (2012) is known as various application of thinking methods that used to increase creativity. Meanwhile, according to Sousa, Monteiro, Walton, and Pissarra (2013) there are three main strategies involved in the creative problem-solving project, which are named as follows,*an Understanding of the challenge, Generating ideas, and Solution Implementation.* Those three strategies are similarto those stated by Treffinger, Crumel, and Slelby (2013) which are *Understanding the Challenge, Generating Ideas, and Preparing for Action.* With those strategies, the action designs are applying three different techniques in every cycle to guide the children's problem-solving activities, the mind mapping technique applies in the 1st cycle, association in the 2nd, and matrix technique in the 3rd. Those processes are expected to endorse the major research aims that trying various possibilities to find the appropriate practice that will help children's overall development in the kindergarten program. Moreover, because theoretically creative cognitive behaviors are dependent to some cognitive processes it is also important to find out the correlations of the overall children's development and the average occurrence of the creative cognitive abilities to determine the relevance of those variables besides all the stimulation efforts to the children. This research is particularly intended to be conducted by stimulating children's creative cognitive skills to help them to reach their best overall development. The focus in practicing various techniques and children's creative styles

to facilitate their development is similar with Dewey's and Chomsky's visions of education that was cited by Wattimena (2012) that it is important to design some good educational processes that will encourage various development based on student's characteristics, styles, and interests. These visions are also similar to the Indonesian vision of education that was declared on the Indonesian educational policy no. 20 in 2003 about the aims of education in Indonesia.

Either way, if those variables can be implemented successfully, the result is not only a good children's intrinsic motivation and workflow as the result of a developed creative cognitive skills that can solve the children's social-emotional abilities, but also good children's overall developmental aspect as the further impact of the treatments.

2. LITERATURE REVIEW

J. P. Guilford was considered as the major person that has given a great contribution in the study of creativity. The conception of divergent thinking within his Structure of Intellect model often become the backbone to the study of creativity. However, most studies of creativity within the early childhood education that took theoretical construct from Guilford's Structure of Intellect often have some difficulties in applying the conceptions of divergent thinking. The first problem is in evaluating children's creativity that sometimes resulting in some biases. Another problem is in the nature of test of divergent thinking that is somewhat inapplicable regarding the nature of children's learning process. The next problem is the structure of children's development itself. Children's creativity simply cannot yet be assessed clearly because of their various developmental limitations in every aspect. The previous research that was done by Jessica Vick Whittaker (2014) gave some tests to a group of children in making an analogical argument by making a comparison of some objects. The three years old children can perform some analogical thinking if the object was already familiar to them. Meanwhile, the four years old children can perform the same task with some objects that they were unfamiliar with. With those findings, it can be said that the younger children's analogical thinking ability haven't had developed yet because it is not supported by their memorizing skills of the object. In that sense, children's capability of making creative actions is dependent on their mental growth in which they also have different qualities in each stage of their ages. The same case might also be found if the children were instructed into doing some task of making an artwork, they would probably be having difficulties in constructing their ideas because of their limited development in certain aspect. Overall, the problems mentioned before are similar to what wascited by Sharp (2001) from Tegano, et., al. which was

said that assessing young children's creativity will not be an easy task because not every child have the adequate skills to make a creative product. Furthermore, a stronger statement cited by Sharp (2001) came from Mark Runco who mentions that true creativity will only appear when the children reach adolescence stage where creativity resulted from their complex attributes of skills. However, Sharp also mentions that alternative strategy in assessing creativity can be done by evaluating the impact of a creative initiative which mainly addressed the children's performance in making creative product. In that regard, it will require some other conceptual framework to be appropriately implemented in the early childhood education setting.

The creative cognitive skill, as it was cited by Rogaten and Moneta (2016) is defined as the universal human characteristic that is dependent on multiple cognitive processes. Rogaten and Moneta also said that it is actually a way of thinking when someone is trying to solve the problem creatively. Those statements also confirmed by Simonton (2000) which mentioned that creative cognitive is the creative mental phenomenon that appears as a result of various cognitive processes. Both definition to the creative cognitive share the same perspective which defines that creative cognitive is a dependent variable to the cognitive processes. Furthermore, Rogaten & Moneta also described that the most researched aspect of creative cognitive were divergent thinking, convergent thinking, metaphorical and analogical thinking, perspective-taking, imagery, and incubation. Divergent thinking is considered as the process of generating many ideas, while convergent thinking is the process that evaluates those ideas, whereas metaphorical and analogical thinking is the process transforming some ideas. Perspective-taking is the process of changing one's perspective to give a more novel insight to the problem.Imagery is the process of constructing mental images during the creative problem-solving process, and incubation is the non-conscious thinking process that happens during the creative problem-solving process. Regarding those definition of various creative cognitive behaviors, it can be said that creative cognitive are various behaviors that appear during the thinking processes in the problem-solving activity. Rogaten and Moneta also said that, "The creative cognition perspective produces the creative process perspective as a whole..." (2016). Furthermore, regarding what previously stated about the nature of early children creativity, this perspective that focuses in the creative process have a reasonable conceptual framework in dealing with the problem.

Meanwhile, the pragmatic approach to creativity as previously stated by Lin (2012) was the application of various thinking methods in problem solving activity to help a person to be more creative. This definition is actually similar to what was defined by Li (2010), that this approach is mainly focusing on developing one's creativity. In summary those two statements, leads to a definition of

pragmatic approach to creativity as the application of various thinking methods that not only helping someone to be more creative but also developing their creativity. This conceptual framework is designed as tools that facilitate the thinking process in a creative problem-solving activity that correlates with various activation of the creative cognitive behaviors that can be observed while the children uses various creative thinking techniques to solve the problem. Cockburn (2011) is one of the researchers that is applying the pragmatic approach to creativity within the scope of early childhood education. The research has reached some conclusions that children can actively engage in learning activity using Mind Map that uses several templates prepared by the teacher. The findings on the research confirmed the possibility of the application of the pragmatic approach to creativity in the early childhood education setting. However, the application of various thinking methods themselves presumably won't be sufficient enough to engage the children within creative problem solving activity. The designed treatment to encourage children development should also consider their natural behavior as children at their age. One of the recommendations from Craft (2014) said that in the effort of nurturing the children's creativity, teacher should involve the children within some immersion activities, so that the children will enjoy their learning process.

3. METHODOLOGY

The Action research was conducted collaboratively using Elliot's model that contains more than one action within every cycle to solve the problem in a careful and detailed stage. Within the Elliot's model of action research, Koshy (2005) mentions that the general processes that involve are including reconnaissance process, fact-finding, and analysis. The maximum variation sampling technique, as it said by McMillan and Schumacher (2001) was used in this research to collect the maximum variation of the kindergarten children. In order to gather the data, this research uses instruments such as observation form to observe the children's creative cognitive skills that emphasize on divergent thinking, convergent thinking, metaphorical and analogical thinking, perspective-taking, and imagery. Other instruments are including assessment form that was used by the teacher to judge children's overall development, teacher observation form to observe teacher performance in the class, field notes, interviews, photographs, audio and video recordings. The data analyses are arranged to deal with qualitative and quantitative data. The analysis processes are done by referring to what stated by Naughton and Huges (2008) that should involve organizing the data for analysis, coding the data, sifting the data for patterns, analyzing the data and displaying the

result. Within the further details on analyzing and validating the data, the triangulation efforts are commissioned by applying convergence and nonconvergence techniques as stated by Yin (2003) citing on Denzin to analyze and identify some cases from various and multiple data resources. Right after some patterns were identified, the next step is to analyze it further within some certain theme analysis.

4. RESULT AND DISCUSSION

4.1. Result

The application of Mind Mapping technique in the 1st cycle assembled with several pictorial templates was designed to help children in their creative processes resulting in the average children's development data as displayed in the table 1 that reach 2.78 points and 1,15 points in their creative cognitive skills. Those developments didn't show significant correlations at each other as it showed in the table 2. Meanwhile, the children's social-emotional development reach 2,79 points. During the process, the children were not performing an active group discussion to decide the appropriate solution to the problem. Those problems are correlated with the teacher's difficulties to apply the Mind Mapping technique so that the children still perform their creative process expressively and subjectively without orienting to the problem. It was perceived as a problem because without the orientation to solve the problem, they may not develop their creative skills. The problems that were experienced by the teacher were also validated by the teacher performance rate data and interview with general statements that referred to the teacher's difficulties in applying the method, organizing the class, and assessing the children's development. The teacher performance, children's overall development and creative cognitive skill didn't reach a good convergence. With the problems that were experienced by the teacher and the children, it can be said that the designed treatment in the 1st cycle was not successful. Various problems that were experienced during the treatment was mainly because of the insufficient preparation that caused the teacher not reaching the expected performance. On the other hand, the nature of inclusive class and various state of children development also became an obstacle during the implementation. In the next treatment, children should be engaged within more active group learning activity with various use of instructional media.

Table 1 Children developments

No. of Cycle	Average Development per Cycle[a]		
	Overall Development	**Creative Cognitive**	**Social- Emotional**
1	2,78	1,15	2,79
2	2,69	1,03	2,88
3	2,81	1,04	2,83

a. Average Score scaled from 1 to 4

The associative technique applied in the 2nd cycle was assembled with more complex arrangements. Visually projected media, music arrangements, the application of the immersion activity that referred to Craft (2014) recommendations in fostering the creativity of children in the early years, storytelling, and role-playing activities were applied to overcome the previous problem and to encourage the children group discussion in solving the problem. However, as displayed in table 1, the result of the treatment could only help the children to reach 2.69 points in their overall development and 1,03 points in their creative cognitive skill. The correlation of both variables didn't show a significant point as it showed in table 2. Meanwhile,

the children's social-emotional development reached 2,88 points. Although the 2nd cycle still did not work out well to help children development, the initial changes in classroom climates happened in this cycle when the children actively engage in the group discussion to solve the problem. Besides the children's cognitive developmental factor and the children with down syndrome, the main problem in the 2nd cycle was mainly down to lack of preparation in conducting the treatment although the teacher has already done a better performance that was validated by the teacher observation form as it shown in fig. 1, which also validated in the interview. All in all, more immersive learning activity through play and group project should become the main focus of improvement for the next cycle.

Table 2 Overall development & creative cognitive correlations

Correlations per Cycle			
Cycles	**Pearson**	**Sig. (2-tailed)**	**n**
Cycle 1	0,337	0.22	16
Cycle 2	0,487	0,056	16
Cycle 3	0,164	0,559	15

The application of the matrix technique in the 3rd cycle was basically the improved design of the 2nd cycle by adding some video display of fable storytelling and natural disaster. The last treatment resulted in the progress of children's development that is displayed in table 1. Children have managed to reach 2,81 points in their overall development and 1,04 points in creative cognitive abilities. However, by means of statistical analysis, both variables do not show good correlations at each other as it showed in the table 2. Their overall average development reach 2,81 points and 1,04 points in their creative cognitive skill. Meanwhile, the other aspect of the problem, the children's social-emotional development reach 2,83 points. Unlike the two previous cycles, the collections of data in the third cycle show good convergences in one another. As it showed in fig.1, the designed treatment helps teacher to perform better, increasing children's development in their social-emotional aspect, creative cognitive skill, and their overall development. Most of the problem that is shown in the 3rd cycle was mainly on the nature of inclusive class that the children with down syndrome cannot adjust as well as the othersjust like
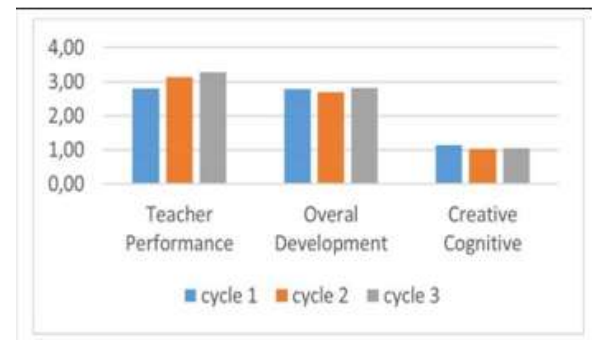

Figure 1 The comparison of teacher performance, overall development. and creative cognitive

the two previous cycles. Until the 3rd cycle of this action research, it is seemed that preparation in conducting the treatment is the main factor that influences the children's achievement. Both researcher and the teacher were not prepared enough to deal with the children within the inclusive class.

4.2. Discussion

Various data within the three cycles shown as a result of the action research was rather being dynamic than linear progress. However, the main purpose of the action research is to make some improvements to solve the problem within the fragmented cycle. The 3rd cycle that is considered as the final improvement of the action research indeed reflects the progress of children development in both the overall development variable and the creative cognitive skill that is also being confirmed by the higher rate of teacher performance. However, the rate of children development did not show a significant achievement especially in their creative cognitive skill.

There were some conflicting thoughts regarding the result of the action research. In one perspective it is said by Ward who is cited by Rogaten and Moneta (2016) that the creative cognitive is related to a natural human thinking process. On the other hand, as it was cited by Sujiono (2009) regarding Piaget's Theory of Cognitive Development the nature of pre-operational developmental phase of the children characterized by strong egocentric and intuitive behaviors. Regarding these natures of characteristics, the children are typically hard to be encouraged to implement the thinking process as it is on the pragmatic approach to creativity. In that matter, children endure some difficulties during the problem-solving process so they cannot develop significant responses based on the creative cognitive behavior criterions. As the result of that matter, the incidence of children's creative cognitive behavior is recorded at a low level.

However, what matters most in this research is in how to encourage children development. Meanwhile, the stimulation of creative cognitive skill is the way that needs to be develop by the children through various thinking processes in solving the problem using the pragmatic approach to creativity. In the 3rd cycle, various problems like frequent chaos in the classroom that is usually caused by expressive and aggressive children's behaviors can be minimized although the children's social-emotional growth has not risen significantly during the research. Furthermore, another important matter that validated the treatment design in the 3rd cycle is that the children's progress did not only depends on a teacher's performance during the children's learning process. The designed treatment in the 3rd cycle that made some arrangement of immersion activities has helped the children to reach a better overall development although the same thing does not significantly appear on the creative cognitive variable. The treatment has successfully changed the classroom climates and making the children enjoy their activities without realizing that they were doing some instructional task. These changes also affected the two children that have down syndrome. They were frequently trying to join the activities willingly because of the sounds and cheers of the other children. Overall, it can be said that the immersion activities within the group problem-solving activities are having a good impact on the children's initiative despite their various mental states that later on helped the children to achieve their best overall development. The increasing numbers of children's initiatives that perceived as the effect of the growth of the creative cognitive skills can be endeavored by the pragmatic approach to creativity that used by the children in their problem-solving activities. The designed treatment does not only affected the children's development but also making it easier for the teacher to motivate the children in their problem-solving activity using various creative problem-solving techniques.

Those findings will somehow be beneficial to the early childhood education teacher and other future researcher that will undertake main focus on developing creativity or encouraging children development through creativity. The focus on creative process will not only will make early childhood practitioner to make appropriate assessment of children's creativity but also encourage further explorations in their teaching practices like the application of immersion and group problem solving activity and also other creative techniques to help the children in their creative process.

5. CONCLUSION

In summary, the pragmatic approach to creativity can be implemented within the early childhood education setting. The application of creative techniques such as Mind Mapping in 1st cycle, association in 2nd cycle, and matrix in the 3rd cycle assembled with some immersion activities and various exciting projected videos and music arrangements can help to encourage children's creative cognitive abilities and their overall developmental progress. Even though both variables statistically don't have some good correlations at each other, the pragmatic approach to creativity is having some complementary effects on both variables in every cycle. Some further explorations are necessary to ensure the correlations between those two variables and how creative based treatment can encourage children's overall development. Some recommendations based on research findings will be further developed to make a better classroom design so that it can stimulate the children incubation process and the immersion activity to encourage children's interactions.

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