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An Analysis of Project Based Learning Method in Interpersonal Intelligences of Preschool Children

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ABSTRAK

Penelitian ini bertujuan untuk mengetahui pengaruh metode pembelajaran berbasis proyek terhadap pengembangan kecerdasan interpersonal anak prasekolah. Subjek dalam penelitian ini adalah anak-anak prasekolah terutama yang berusia 4-5 tahun. Subjek terdiri dari dua taman kanak-kanak di Yogyakarta Indonesia, pesertanya terdiri dari 31 anak. Dengan demikian, data yang digunakan adalah desain penelitian eksperimen semu. Kelompok eksperimen diajarkan dengan metode pembelajaran berbasis proyek sedangkan pada kelompok kontrol dengan metode konvensional. Pengumpulan data menggunakan lembar observasi. Data penelitian yang diperoleh dianalisis dengan menggunakan uji-t melalui program SPSS.16 untuk melihat perbedaan antara kelompok eksperimen dan kelompok kontrol. Hasil penelitian menunjukkan bahwa ada pengaruh yang signifikan dari metode pembelajaran berbasis proyek terhadap kecerdasan interpersonal anak prasekolah. Rekomendasi penelitian ini diberikan kepada orang tua, akademisi, praktisi dalam diskusi yang secara khusus menekankan pada perlunya meningkatkan peluang untuk kecerdasan interpersonal anak-anak prasekolah dengan stimulasi yang baik.

Kata Kunci: Kecerdasan Interpersonal, Pembelajaran berbasis proyek, Anak Prasekolah

ABSTRACT

This study aims to determine the effect of project-based learning methods on the development of interpersonal intelligence in preschool children. The subjects in this study were preschool children, especially those aged 4-5 years. The subjects consisted of two kindergartens in Yogyakarta Indonesia, the participants consisted of 31 children. Thus, the data used is a quasi-experimental research design. The experimental group was taught using project-based learning methods while the control group used conventional methods. Data collection using the observation sheet. The research data obtained were analyzed using the t-test through the SPSS.16 program to see the differences between the experimental group and the control group. The results showed that there was a significant effect of project-based learning methods on the interpersonal intelligence of preschool children. The recommendations of this study are given to parents, academics, and practitioners in a discussion that specifically emphasizes the need to increase opportunities for preschool children's interpersonal intelligence with good stimulation.

Keywords: *Interpersonal Intelligence, Project Based Learning Method, Preschool children*

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INTRODUCTION

Intelligence is skill of thinking and ability to adapt and learn from the experience of everyday life (Santrock, 2007: 317). One of the most important intelligences to be stimulated for child development in later life is interpersonal intelligence. Interpersonal intelligence is the ability of children to communicate effectively, able to empathize well, and the ability to develop a harmonious relationship with others (Gardner, 2013: 27). Similar exposure to interpersonal intelligence is based on Armstrong (2009: 7) he describes intrapersonal intelligence as “self-knowledge and the ability to act adaptively on the basis of the knowledge. This intelligence includes having a picture of oneself (one’s strengths and limitations), awareness of inner moods, intentions, motivations, temperaments, and desires, and the capacity for self-discipline, self-understanding, and self-esteem”. Communication and collaboration as well as critical thinking and problem solving. One way of incorporating the goals of 21st century learning with interpersonal intelligence is to adapt pre-existing curriculum with problem-based learning. Interpersonal intelligence is important and needed in daily life, from relating with family members at home, to classmates and teachers at school to working with others in a person’s career (Kanazawa, 2010). Basically humans cannot be alone, many activities in the child's life related to others, so that by having high interpersonal intelligence children are not easily excluded socially. People with low interpersonal intelligence are more likely to be unconcerned about the surrounding environment, the language used is usually painful to others, the attitude is indifferent to others. Therefore, it is very important to develop interpersonal intelligence in children.

One way to improve children's interpersonal intelligence is through activities with project method. The project based learning is a collaborative form of learning as all participants need to contribute to the shared outcome and has elements of experiential learning with active reflection and conscious engagement rather than passive experiences being essential (Kokotsaki, Menzies, & Wiggins, 2016: 7). Bell (2010) Project-Based Learning (PBL) is an innovative approach to learning that teaches a multitude of strategies critical for success in the twenty-first century. Students drive their own learning through inquiry, as well as work collaboratively to research and create projects that reflect their knowledge. Based on observations in children aged 4-5 years showed that cooperation with friends still has not been cultivated because the child's work is still individual. It showed from learning process by using glue and scissors facilities, children fighting even though the teacher has been instructed to take turns and patiently waiting for that. Some shy children are seen to have only a fixed friend. This can be observed during group activities or when sitting together, the child just wants to be a close together with a group of friends who are often with him. Therefore this research used the project method as one of the learning methods to improve the interpersonal skills of preschool children.

PROJECT BASED LEARNING

Project based learning has evolved and influenced by various theories. Dewey describes the nature of the child providing a basic picture of project learning. Dewey supported "learning by doing." This sentiment is also reflected in constructivism and constructionism. Constructivism (Perkins, 1991; Piaget, 1969; Vygotsky, 1978) via (Grant, 2002) explains that individuals construct knowledge through interactions with their environment, and each individual's knowledge construction is different. So, through conducting investigations, conversations or activities, an individual is learning by constructing new knowledge by building on their current knowledge. Constructionism takes the notion of individuals constructing knowledge one step further. Constructionism (Harel & Papert, 1991; Kafai & Resnick, 1996) via (Grant, 2002) posits that individuals learn best when they are constructing an artifact that can be shared with others and reflected upon, such as plays, poems, pie charts or toothpick bridges. Another important element to constructionism is that the artifacts must be personally meaningful, where individuals are most likely to become engaged in learning. By focusing on the individual learner, project based learning strives for "considerable individualization of curriculum, instruction and assessment-in other words, the project is learner centered" (Moursund, 1998, p.4) via (Grant, 2002).

Children work in small groups with project teams and teachers as advisers or counselors, project activities carried out either within weeks or up to one year (Julie & David, 2003: 9). The Buca Institute for Education in (Trianto, 2014: 41) explains that the project method is a learning model involving learners in problem-solving activities and allows learners to work autonomously construct their own learning and peak to produce a product or a work. The research undertaken by Brown & Campione in (Mitchell et al., 2009: 339) describes project learning developing children's thinking skills such as problem solving, planning and self-monitoring. Helm in (File et al., 2012: 70) describes that projects are basic in teaching and learning process between teacher and student. It is based on beliefs about a very important learning-by-doing and group discussion in the union of ideas and experiences to gain a better understanding. There are many benefits in project learning that the child gains a full understanding, collaboration with other children in an integrated manner, and the child gains experience learning in developing positive attitude in the activities of working with other children.

INTERPERSONAL INTELLIGENCES

Interpersonal intelligence is also referred to as social intelligence which means a person's ability to create relationships, build and maintain beneficial social relations (Safaria, 2005: 24). Gardner (2013: 27) explains interpersonal intelligence is the ability to connect with someone around him, the ability to understand others is about what motivates them, how they work, how to work with others. There are components in interpersonal intelligence. Gardner & Thomas (2016); Leunenbun (2014) explains the core component of interpersonal intelligence is the capacity to discern and respond appropriately to mood, temperament, motivation, and the desires of others. Rubio (Perez & Ruz, 2014: 143), interpersonal intelligence as the ability to understand

oneself, recognize emotions, personal strengths and weaknesses, and the ability to solve thoughts, unstable conflicts of psychological balance or homeostasis.

Interpersonal intelligence can be detected as early as possible by seeing from some of the most prominent intelligences, it can be seen by observing the characteristics of interpersonal intelligence such as: having lots of friends and socializing in school or residence, enjoy group games, empathize against the feelings of others, being advisors or problem-solvers by their peers, enjoying teaching others, having the ability to understand others and communicate effectively (both verbal and nonverbal) and talented leaders, able to adapt to different environments and groups, creating and maintaining synergies (Noorlaila, 2010: 110). Jackman, (2009: 12) describes Gardner's presentation that the learning environment should provide opportunities for children to connect with others by participating, sharing, negotiating, learning, listening to the community, working together on joint projects, lead, see things from another perspective, and organize and negotiate groups.

There are several reasons why the importance of interpersonal intelligence is owned by the child. This is because interpersonal intelligence is not only important but the basis for the well-being of the child, especially for his future life, to become a socially conscious and adaptable adult, to be successful in work and for the emotional and physical well-being (Lwin, Khoo, Lyen, & Sim, 2008). Interpersonal skills provides children with an important socialization function for the development of social competence (Green, et.al., 2008: 3). Through cooperative interactions in the years from preschool through early elementary school, children learn how to take turns, share resources, form and maintain positive peer relationships, and manage conflict a lack of skill in these areas may be detrimental to a child's social and emotional development. Furthermore, mastering how to handle conflict is essential for social development because these early relationships are the foundation for future relationships.

RESEARCH METHOD

The type of research in this study is quasi experiment. This research was conducted at ABA Pringwulung and Tunas Harapan Kindergarten Yogyakarta, Indonesia. Research subjects were children aged 4-5 years amounting to 31 children. The subject is divided into 16 children in ABA Pringwulung and 15 children in Tunas Harapan kindergarten. Children in ABA Pringwulung as experimental group and the control group in Tunas Harapan Kindergarten. In the experimental group used project method (made toy cars of unused material), while in the control group used conventional method (draw a picture). The data collection techniques used in this study through observation. Data analysis through t-test using SPSS.16 program.

RESULT and DISCUSSION

This study aims to determine the effect of project based learning method in interpersonal intelligence of preschool children. The influence of the use of the project method was seen between the experimental group and the control group. The data in this study include preliminary

scores (pre-test) and end (post-test) ability in interpersonal intelligence. The data obtained are processed using SPSS 16 program. Aspects to be assessed are: 1) Accepting differences of opinion, 2) appreciating differences of opinions, 3) taking turns using the playground, 4) listening to others speaking, 5) understanding the temperaments of others, 6) cooperate with friends, 7) use good words to others, 8) organize his group to be disciplined in doing project activities, 9) tolerance with others, 10) share with others. Preschool children were assessed by 10 indicators on observation sheet. The result of distribution data interpersonal intelligence in experimental and control group show on the tabel

Based on the data taht was conducted, for experimental group it can conclude that minimum score in pretest was 50 and posttest was 70. For maximum score from 75 in pretest and 90 in posttest. There was a different mean from pretest and posttest in experimental group. The control group, it can conclude that minimum score in pretest was 50 and posttest was 60, for maximum score from 75 in pretest to 85 in posttest. There was a few significant different mean from pretest and posttest in control group.

Based on normality test results obtained p value on kolmogorov-smirnov which can show the distribution of normal or not distributed data. The terms of data are normally distributed if the p value obtained by the calculation is greater than the 5% significance (0.05). For pre-test data in 2 schools showed the results of 0.200 and 0.200 while for post-test value 0.191 and 0.200. This can be interpreted that $p > 0.05$ then the data is normally distributed.

The next data of this research is homogeneity test. It is used Levene's test. Acceptance or rejection H_0 can also be seen through the probability value with the criteria that if the value of significance at the output greater than 0.05 then the homogeneous data and if smaller than 0.05 the data is not homogeneous. The results show the pre-test homogeneity of interpersonal intelligence of 0.942 and post-test 0.444.

Hypothesis test is done by using t-test. If the hypothesis test results there are differences, it shows that project based learning method affects interpersonal intelligence of preschool children. The results are shown in the table below which shows that the significant value < 0.05 . It can concluded that there is effect of project based learning method toward interpersonal intelligence of preschool children. The result of t-test showed in the table 1 above.

Tabel 1: Result of t-test Interpersonal Intelligence

Group Statistics					
Class		N	Mean	Std. Deviation	Std. Error Mean
Interpersonal Intelligence	Eksperiment	16	79.3750	6.80074	1.70018

Tabel 1: Result of t-test Interpersonal Intelligence

Group Statistics

	Class	N	Mean	Std. Deviation	Std. Error Mean
Interpersonal Intelligence	Eksperimen	16	79.3750	6.80074	1.70018
	Control	15	71.3333	8.12111	2.09686

Independent Samples Test

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
								Lower	Upper
Interpersonal Intelligence	.603	.444	2.996	29	.006	8.04167	2.68375	2.55278	13.53056
Equal variances assumed			2.979	27.404	.006	8.04167	2.69953	2.50651	13.57682
Equal variances not assumed									

DISCUSSION

The results showed that there was a significant influence of the project based learning method in interpersonal intelligence of preschool children. Hypothesis can be accepted. Interpersonal intelligence was increased on preschool children occurs because the learning of the project method is one of strategy that can be selected to develop the principle of playing while learning and make the child as a center in learning process. This means that the learning process is obtained through activities or activities that are done alone or in groups, with the understanding of how children do work in accordance with certain steps and series of behavior. Knowledge gained from self-made results, enables the child to remember the experience, build a

deeper understanding, cultivate curiosity, and gain individual respect for the child (Moeslichatoen, 2004; 137).

The result of this paper was support by other research about interpersonal intelligence, Maliah (2015) was explain her research about children's interpersonal intelligence through the project method in group B2 of TK ABA Plus Al Firdaus Mancasasan, Yogyakarta. This research conducted in three ways : 1) teacher discuss with the students to determine the themes that will be studied to fit the interest of the student. 2) Teacher prepared a division of the group and made a description of the task, the teacher gave apperception, briefing to collect information, and an example of project that will be created. 3) Teacher collected the result of the project, children were asked to present the result of the project, discuss project activities that have been before. The result showed that project method can improve interpersonal intelligence of the student in TK ABA Plus Al Firdaus Mancasasan, Yogyakarta.

Through the project method children are given the freedom to choose activities that have been provided and gave idea to more appropriate challenges rather than the teacher's dominance in choosing learning activities, providing teaching materials at the right level of instruction. Teachers only help to develop the skills that exist in the child, instead of the teacher as an expert who views the child as an individual who has weaknesses. Thus, the project approach focused to the children as a subject of learning, giving children the opportunity to learn and understand something by their own learning, prioritizing different developmental rhythms in each child, and in the learning process, the teacher acts as a facilitator and motivator for the child.

The project method is a teaching strategy that involves children in learning to solve problems by collaborating with other children, each doing their work individually or in small groups to achieve common goals (Moeslichatoen, 2004: 141). In the daily life of children cannot be separated from the surrounding environment, the environment confronts the child in direct experience. The environment of life as a person and especially the child's life environment in the group, many provide experience how to do something consisting of a series of ways to achieve goals.

In groups, each child learns to be self-regulating in order to foster friendships, participate in group activities, solve problems facing groups, and work together to achieve common goals (Gordon, 1985: 17; Moeslichatoen, 2004: 138). The project method provides opportunities for the child to improve individually or small-group skills, and to generate the child's interest in the project, as well as the opportunity for the child to realize his creativity, cooperate fully, be responsible for the success of the group's goals. Harianti (1994: 148) states that the project method is a method that provides opportunities for children to use the environment and the natural surroundings as well as daily activities as a discussion through a series of activities. It supported by many expert like (Green, et.al., 2008; Grant, 2002; Kokotsaki, Menzies, & Wiggins, 2016; & Bell 2010). This means that through the project method, the child's interpersonal intelligence will increase.

The project method can invite the child to have a direct learning experience, making it more meaningful for the child. In addition, children learn to cooperate with their group friends and develop other skills related to children's interpersonal intelligence, namely the ability to

empathize, the ability to organize a group of people to a common goal, problem-solving skills, and the ability to communicate with friends.

SUMMARY

Project based learning offers an engaging instructional method to make learners active constructors of knowledge. Based on the data analysis and discussion, it can be concluded that the project method has a positive effect to increase interpersonal intelligence of preschool children. Thus, it can be said that there is a significant influence of using project based learning method in interpersonal intelligence of preschool children. For teacher, parents, academics, practitioner can used this method especially to increase interpersonal intelligence of children.

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