



The Implementation of Early Childhood Scientific Learning through “Float and Sink” Gamev

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Abstract

The research is motivated by scientific learning which was given by the teacher was less attractive and monotonous, even using the manufactured game and toy that tended to be practical. The purpose of this research is to know how the scientific learning implementation through “float and sink” game in learning. The type of the research is descriptive research which uses a qualitative approach. The result of the research is about the given scientific learning by the teacher has adjusted with the theme and the sub-theme, the method which is used by the teacher in scientific learning has been able to develop the scientific ability of children such as using experiment method. The obstacle is the teachers’ creativeness in designing scientific activity.

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INTRODUCTION

The early childhood education is an activity that is held consciously and responsible for giving positive influence of the early childhood. The positive influence is given by using the planned, systematic and ongoing program in educative interaction form between educator and children. The educator action can be said to give the positive influence if, by this action, all of the appeared and hidden potentials of the children can be developed to be more advanced and progressive.

The teacher as a technical executor in field are still a small number of them which are able to develop the appropriate method and approach in children learning process that enable the children can learn scientifically, the teacher is expected to be able to design the learning situation which boosts the children to be able to explore, pioneer and create, with the result that the children can find the answer by themselves (inquiry) and the meaningful learning process for the children. In fact, the teacher is not quite optimal in designing of an active and creative learning that gives an opportunity for the children to explore and do experiment, particularly in scientific learning directly.

The chance of children for exploring optimally in its learning process, so the children can conclude the result by themselves from the exploration concretely can be done by them through scientific learning in the classroom.

This scientific learning enables the child to use his/her senses in learning process more maximal that can develop the multiple types of potential (intelligences) which is owned by the child. The learning to know scientific is quite significant in order to the children participates in scientific process because their skill achievement can be brought to their long life beneficial skill. These skills include observing, comparing, explaining, estimating, measuring, communicating, and classifying (Montolalu, et.al, 2007: 8.31). This scientific concept development is based on the child natural characteristic. Moeslichatoen (1999: 10) stated that, **naturally, the child wants to understand everything that he/she sees and hears, everything that is observed by his/her senses, so the child tries to find the answer by himself/herself in various ways. Such as the answer concerned everything which is seen, heard, smelt, touched. About how it happens, where everything comes from or what will happen if something is touched, changed the position, and thrown down. As for the use of the research for a student to help him/**

her in develop scientific skill through float and sink game using the used method by the teacher. For the teacher which involves the student as a research subject has the direct implication of the change and skill improvement recognizes the appropriate method to improve the scientific skill of the children. Therefore, the objective of this research is to describe the implementation of scientific learning of early childhood through float and sink game in RA Al-Azhar Permata Puri hills Ngaliyan sub-district, Semarang city.

RESEARCH METHOD

The type of this research is descriptive research using a qualitative approach. According to Bogdan and Tylor in Margono (2007: 36), qualitative research is a **research procedure that produces the descriptive data which is formed of the written or oral description from the people and behavior which are observed. As it is expressed by Moleong (2007: 11) the collected data is words, pictures, and no numbers. This research is formed of the descriptive report study (field research), that describes factual or gives the clear description of study about the scientific learning of child in RA Al-Azhar Mosque, Ngaliyan. This school has 11 teachers where each class has two teachers which consist of a core teacher and a shadow teacher. The lesson starts at 07.15 WIB to 10.15 WIB. In this research, the informan or participant is the parties which are involved or work in surrounding the research place conducted such as the teacher, the headmaster, and students. Whereas, the research instrument is the researcher herself, besides using the researcher herself in this research instrument, the researcher used observation, interview, to know the activities in the classroom. The documentation is to record about the activity which happened during the given action, the devices used are camera and recorder. Observation is used to gather the data. Moreover, interview technique is to get verbal information from the informan. The used of data analyzis technique in this research is using Miles in Sugiono's (2006:337) whom stated that the activity of qualitative data analyzing is conducted interactively and going on continuously until its complete, so the data is clear. The activity of data analyzing is by the reduction of data method that is meant enclosing, choosing the main things, focusing on the important things, finding the theme and its pattern and throwing the un-necessary things. Data presentation is done on the short commentary, diagram, and correlation inter-categories, and then they will abridge to understand what is**

going on, plan the next work, based on what have understood. The data presentation which is used, besides using the narrative text can use graphic, matrix, network, and chart. The verification where the researcher tries to find the pattern, theme, correlation, similarity, the things are often arisen and soon from the acquired data are to be taken the conclusion. The data which is concluded has always to be verified during conducting the research. The verification is checking about the truth of the report, to guarantee the validity. In this research, the used of data approval technique is triangulation. According to Moleong (2007: 330), triangulation is data checking technique by employing other things. In out of its data for the data, need by employing the other things. The other data is needed for checking the data. The credence degree towards this research data is an activity which is intent to prove what is observed appropriate with the condition of reality. Denzim in Moleong (2007: 330) stated that there are four types of triangulation as checking technique that employs the use of resource, method, investigator and theory. Triangulation by the resource is meant to compare and check behind the degree of reliance on gained information through the different time and device in qualitative research (Patton in Moleong, 2007: 330). **Based on the research** which will be conducted, the appropriately used triangulation technique.

RESULTS AND DISCUSSION

Based on the research which is conducted by the researcher, the research will describe the discussion from the data which has been obtained. Learning plan in Al-Azhar Mosque is arranged by the teacher as the first thing, based on the weekly activity program. From the weekly activity program which has arranged, the teacher made daily activity program every day. The daily activity program that will be delivered consists of opening activity, main activity, break and closing activity. The time of learning was started at 07.15-10.30 every day except Friday and Saturday. In the opening activity, teacher prepared all of the students in the school yard. After the students read the declaration, memorizing of the surah and the short pray, then they entered the classroom. Next, the teacher asked students about the sub-theme that will be taught to them on that day. After the teacher feels the students have shown a good condition, then the teacher entered into the main activity of learning. The main activity started by introducing learning on the students; particularly on the scientific lear-

ning which is included in the category of child cognitive development. The scientific learning of the children in class B is given by demonstrati-on method. Through demonstration method, the teacher demonstrated learning with putting the tools which support the scientific activity of float and sink such as: glass, spoon, salt, egg, water, tomato, and carrot which are prepared by the teacher and arranged on the table. For the scientific activity practice of float and sink, the curiosity of the children was seen with their expression when 3 glasses are laid down on the table and filled with water.



After that, the teacher demonstrates the learning activity in front of the class by practicing 3 glasses; filled with water only, water and small amount of salt, and the glass with water and lots amount of salt. Then, egg, tomato, carrot are put into the glass one by one. **So that, by the experiment**, children can see directly how the process of floating and sinking of the things. Afterwards, the teacher asked **the children to do the experiment** in front of the class. This activity was more attractive for children because the children also took part and tried the activity directly.





After the activity demonstrated by the children, the teacher explained to the children what was the scientific event that have been learned. Although the media that used by the teacher was simple, but through the learning method teacher gave, students understand the scientific concept of floating and sinking in a simply way. While demonstrating the learning activity, the teacher also asked children about the scientific activity. Subsequently, teacher explained the children why it can be happened. After finishing the scientific learning activity, teacher asked the children to do the worksheet which has been prepared by the teacher.

Next step was, teacher asked children to do the habitual activity such as pray before playing. Closing activity was done by sang several songs. It is to awaken the spirit of the children again. After that, the teacher explained once again the conclusion from the result of learning on that day. **The teacher made another technique to engage children's knowledge on that day by questions and answers method.** From the childrens' answers, it showed that the children truly take a note of learning which given by the teacher. Then, to praise their answers, the teacher gave them reward. In the end of the learning, the teacher led children to pray before going home. Based on the observation above and supported by the result of the interview between the researcher and the teacher, it can be seen that this technique was more attractive, joyful, and could make children understand better rather than using worksheet which made the activity monotonous. And

by this simple activity, scientific activity had been done, corresponded to the curriculum. Need to be admitted that, not all of the teacher practice the scientific activity in the classroom, and prefer to use lecturing. However in its application, researcher can say that the teacher's learning method is still less creative in creating scientific learning for children, because the teacher cannot create the scientific learning by themselves and the activity was taken from the magazine.

Suggestions for the teacher are; he/she has to prepare daily lesson plan one day before the activity is done. **It will make easier because, the lesson plan is designed based on the weekly lesson plan while the material is taken from teacher's semester program.** Then, to make it simple, the teacher should use the material that can be found in around the school. In teaching, there are many methods that can be used for teachers to be implemented in their classroom. Teaching method is a plan to describe and create a communicative environment for the students in teaching and learning process. An appropriate teaching method needs to be applied so that teaching and learning process can be done very well. Scientific learning method **that used by the teacher was demonstration method which collaborated with communicative approach.** These methods are proved to increase students' motivation and intention during teaching and learning process. This statement is in line with Moeslichatoen (1998) who stated that method is a tool to achieve the purpose, even though it is **not always run as planned.** Therefore, in choosing teaching method, the teacher needs to consider some factors and the reasons why he/she uses these methods. One thing for sure, **the teaching method for kindergarten students should be challenging and entertaining.** It should includes some elements such as playing, singing, and learning. Some methods which appropriate with kindergarten students characteristics are games, field study, interactive, storytelling, demonstration, and assignment orientation. When scientific learning method started in class B, the teacher introduced media and material to the students. After that, the teacher began to demonstrate the activity to the students. The teacher demonstrated the activity by preparing 3 glasses of mineral water and 3 glasses of salt water. After that egg, tomato, and carrot is put into the water one by one. The students then watched the reactions when the egg, tomato, and carrot were put into normal water and salt water. Then the teacher asked the students to practice the activity in front of the classroom. **This activity was entertaining because the students were involved and took**

part directly in demonstration activity. The explanation above shows that teacher activity in the classroom is suitable for his lesson plan that he prepared one day before. Based on the result of the research can be concluded that the teaching method that is used by the teacher in RA Masjid Al-Azhar Ngaliyan is demonstration method. Using this method, the teaching, and learning activity will be more meaningful and the students will be easier in understanding the lesson because they are involved directly in the demonstration activity. In addition, the teaching also used communicative approach in teaching and learning the process in order to sharpen students' ability and understanding and stimulate them to ask questions based on what they see during the learning process. The problem that the teacher faced in applying this method is that the teacher has less creativity in applying the scientific method and **she tended to use worksheet in the learning process**. Therefore, the teacher and principal are hoped to increase their knowledge about scientific method especially in developing the varieties of methods and its lesson plan. RA Masjid Al-Azhar Ngaliyan foundation is hoped to provide learning medium, especially in scientific learning so that the learning activities that is used by the teacher is vary and more understandable for the students. For the next researcher, it is hoped to be able to practice and explore more details about the development of students' ability that is taught by using other methods.

CONCLUSION

The scientific learning which is given by the teacher has adjusted by theme and subtheme.

A method that is used by the teacher in scientific learning developed the scientific skill of the children is experiment method. The implementation of the method used by the teacher was demonstration method. The teacher showed the children in front of the class what will happen when things were put inside the glass filled with water, **and water mixed with salt**. By this demonstration method, the learning is more meaningful, because the children are getting more enthusiastic during learning process, and the children can understand the concept of scientific well because it is demonstrated directly. Besides the demonstration method, the teacher can add conversation method during learning. By using conversations, children can sharpen their skill and train them to be brave and confidence to ask questions. It can be say that the obstacle factor for teacher in scientific learning is in designing the activity for children.

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