

High Order Learning Process in Core School of Anggrek Cluster in Candisari District Semarang

Isna Rizki Mubarokah^{1✉}, Sungkowo Edi Mulyono² & Rodia Syamwil²

¹ PAUD Taman Belia Candi Semarang, Indonesia

² Universitas Negeri Semarang, Indonesia

Article Info

History Articles

Received:
September 2019
Accepted:
October 2019
Published:
August 2021

Keywords:
*higher order thinking,
curriculum 2013,
scientific*

DOI

<https://doi.org/10.15294/jpe.v10i2.34455>

Abstract

The 2013 curriculum and the implementation of HOTS are urgently needed to create future generations, not only characterized, productive, creative, and innovative but also who understand the national identity and create children who are superior and able to compete in the international world. The scientific approach can be a tool that teachers use to be able to carry out learning that can lead to high-level thinking learning for kindergarten, this is also contained in the 2013 curriculum. This study aims to analyze the high order thinking of kindergarten in the core orchid cluster school in Candisari District, Semarang. The research is a qualitative research. Which concern in the learning process carried out in class by the teacher to the child both from the strategies used and the communication that the teacher did while in the learning process. The result from the study is that Taman Belia Candi as the core school of Anggrek cluster has already used high-order thinking learning. This can be seen from the lesson plans used and also the learning process carried out. The conclusion that can be drawn from this research is that the high-level learning process for early-aged children has been carried out in the Anggrek cluster core school, Candisari District, Semarang, this can be seen from the scientific approach use in the learning process in the classroom.

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✉ Correspondence address:
Singotono No.10a Candisari, Semarang, Jawa Tengah
E-mail: naiez_rizki@yahoo.co.id

INTRODUCTION

Learning process in the millennial era needs a 21st century's skill, namely high order thinking skill, acquired from a deep thinking result, and communication ability. Saavedra and Opfer (2012) defined 21st century's skill into four categories. They are (1) Way of thinking: creativity and innovation, thinking critically, problem solving, decision making, and learn how to study (metacognition); (2) Way of performing: communication and cooperation in group; (3) Device for working: general knowledge and information communication technology (ICT) literacy: as well as; (4) Living as a citizen: nationality, living and career, and personal and social responsibility, including cultural awareness and competence. Wagner (2008) proposed that students need to be provided with seven skills to survive in the 21st century as follows: (1) thinking critically and problem-solving, (2) collaboration and leadership, (3) the agility and ability in adaptation, (4) initiative and entrepreneur, (5) effective communication either in oral or written, (6) accessing and analyzing information, (7) curiosity and imagination.

Higher Order Thinking Skills (HOTS) is a process of thinking from the students in a higher cognitive level that developed from various concepts and cognitive method and taxonomy of learning, teaching, and assessment (Saputra, 2016:91). The main purpose of high order thinking skills is how to improve students' thinking ability in a higher level, especially the ability to think critically in receiving many kinds of information, to think creatively in solving a problem using the acquired knowledge and also to make decision in complex situations (Saputra, 2016).

The concepts of Benjamin S. Bloom et al. in the book *Taxonomy of Educational Objectives* (1956), actually is the learning purposes that divided into three realms. There are cognitive, that is a mental skill (related to knowledge); affective, emotional side (related to attitude and feelings); and psychomotor, that related to the physical ability (skill). The taxonomy to determine the learning purposes can be defined as

'the final goal from learning processes'. After undergoing a certain learning process, students are expected to adopt the skill, knowledge, or new attitude. The thinking ability is divided into high and low level, is part of the domains that proposed by Bloom namely cognitive domain. Two other domains, affective and psychomotor, have their level. The cognitive domain is later revised by Lorin Anderson, David Krathwohl *et al.* in 2001.

The sequence is changed into (1) remember, (2) understand, (3) apply, (4) analyze, (5) evaluate, and (6) create. Stage 1 until 3, that suitable with the early concept, is categorized as low order thinking skill (LOTS). Meanwhile stage 4 until 6 is categorized as high order thinking skill (HOTS).

The implementation of the 2013 Curriculum is supposed to lead to learning that contains HOTS in school. Minister of Education and Culture Regulations no.22 year 2016 about the standard content explained 14 learning principles, few of it leads to HOTS learning. The learning principles according to Minister of Education and Culture Regulations no.22 year 2016 that in line with HOTS learning is: from students that being informed into students that finding out by themselves, from teacher who becomes the one and only learning source into learning from various source, from textual approach lead to process as a strengthening of the use of scientific approach, from content-based learning to competency-based, from partial learning to integrated learning, and from learning that emphasized single answer to the answer with multidimensional truth.

One of the ways that can be used to direct the learning into an activity related to HOTS. National Centre for Competency Training (2007) in Prastowo (2012) explained that "teaching material is everything in a form of material used to facilitate teacher or instructor in implementing learning process in class, the material it self can be in a form of written or not". When the goal is the learning that leads to high order thinking skill, therefore, the teaching material should contain HOTS. Octaviani (2017) concluded that thematic teaching material developed is effective in

learning. While Pambudhi and Retnowati (2017) through their teaching material in the form of module able to lead students to have nationalism character. Regarding the research result, teaching material containing HOTS is one of the alternatives to teach students to develop their high thinking skill.

METHODS

The researcher used a qualitative research method. This was due to the researcher who took the data that was natural from the provided data. In qualitative research, the focus determination was based on the novelty level of the acquired information from the social situation. The focus of the research would lead and guide the researcher to the field situation on how it going to be chosen from various background available. The researcher used the focus of research so that it could limit the study, and later evoking a changing or subject of the study becomes more centered and directed.

The research was focus on the learning strategy for early-aged kindergarten that lead to the high order thinking pattern in early childhood education program of Anggrek school core cluster district of Candisari Semarang. Sugiyono (2013:282), stated that the focus of the research is a social situation, therefore the entire social situation involves place, actor, and activity related to the focus of the research is analyzed holistically.

The source of the data observed by researchers is in the Core school located in the Anggrek Cluster, Candisari District, Semarang. The subject used was the Taman Belia Taman Semarang Kindergarten Core School and the local cluster leader. The research sampling was using purposive sampling because the specified informant is considered able to provide the data needed in the study (Sugiyono in Yohanes Mamun, 2017: 78). The source of data was an activity done in every component of performance done by the headmaster and teachers. Extra source of data or document was the document, notes or archive related to the performance of the headmaster and teachers.

The method of collecting data were interviews, observations, and documentation (Sugiyono, 2011). The instruments used to collect the data were interview sheets, observation sheets and documentation of the activity.

RESULTS AND DISCUSSION

Teacher as the lowest leader in an educational foundation especially as a leader in the class setting. The teachers should have management principles that cover: planning, organizing, actuating, and controlling in managing resource and information through the learning process. The learning process should the reach specified goal effectively and efficiently either in process or results.

Solving problems contain meaning that children do not stop revising question even if they have got the answer. However, the interpretation activity is not only unclear but also not enough to make children using their high thinking order skill. Therefore, other activities are needed to develop critical and creative thinking skill to answer innovative questions such as What another way? What if? What's wrong? And what would you do? (Krulik & Rudnick, 1999).

The curriculum content of Taman Belia Candi Semarang covered several development fields which its breadth and width is a learning burden for the students in an education setting. Moreover, the local content material and self-development activity are included in the curriculum content.

The school foundation of Taman Belia Candi Kindergarten is a foundation that becomes the core school in Anggrek cluster that implemented 2013 curriculum since 2017, as Taman Belia Candi is a favorite school in Central Java Province. As a core school, Taman Belia has a responsibility to share the latest information about early childhood education, one of them is the 2013 Curriculum. Since using 2013 Curriculum, Taman Belia arranged the learning using a scientific approach that included in lesson plan (RPP), as stated by NP in the interview process, that RPP in Taman Belia hardly emphasized scientific learning, start from

observing, analyzing until communicating what he got is already listed in RPP. In the learning process, the teacher must deepen how children can be persuaded to thinking in high order. What needs to be noted, when children are expected to think in high order, therefore, the teacher needs to think in high order first, So, the teacher needs to practice and remind that they need to think in high order to teach the students to do the same. They cannot give when they do not have

anything. In scientific learning, the material comes first before being used in the center.

The learning process that includes high-level thinking learning in early childhood starts from the teacher's readiness in planning and conducting learning that is appropriate to the child's development. The way that the Semarang Candi Young Park teachers do their high-level thinking learning in early childhood, one of which is as in Table 1 and Table 2.

Table 1. Examples of high order thinking activities in Taman Belia Candi Semarang Kindergarten

Bloom's Taxonomy	Teacher are	Student are
Remembering	The teacher shows some objects that will be used in learning activities	The child observes, then mentions the name of the object shown to the child
Understand	The teacher provokes the child using the sentence asking how to use the object to be used and asking what happens if the object is put together (eg mixing colors, dissolving, floating, drowning, etc.)	The child explains how the work / use of the bend is delivered by the teacher and estimates what happens when two or more objects are put together (eg mixing colors, dissolves, floats, etc.)
Apply	The teacher gives a simple experiment to the child, then conducts / practices (eg mixing colors, dissolving, floating-drowning, etc.)	Children see the experiments carried out then obtain the results of simple experiments conducted by the teacher after which the child implements or performs simple experiments independently

Table 2. examples of high order thinking activities in Taman Belia Candi Semarang Kindergarten

Bloom's Taxonomy	Teacher are	Student are
Analyze	The teacher gives the child the opportunity to try other materials for use in a simple experiment	The child tries other materials that have been provided for a simple experiment, then the child analyzes whatever objects that can be used / can be used in making a simple experiment
Evaluate	The teacher provokes in the form of open questions what happens to the simple experiment when added or used other materials that have been provided	The child assesses the results of a simple experiment conducted according to the material that has been exemplified by a simple experiment carried out by adding other ingredients
Create	The teacher provokes in the form of open questions, what can be done with materials / objects that have been prepared by the teacher	Children create their own simple experiments with the tools and materials provided into something that can be used to play according to the child's imagination

Fun activities for children come from the planning of mature teachers in planning learning. One thing that can be done is to create interesting play settings and develop children's creativity and imagination to be able to create the material provided into a work of children's thoughts. Teacher provocation activities in providing open questions can also help children to be able to solve children's problems. Here is one photo of a child's activity when doing learning activities as in Figure 1.



Figure 1. The child moves the ball by blowing the ball using a straw

The learning strategy used by the teacher in the school of Taman Belia is various depending on the children's age condition and material that

currently delivered. Learning packaging that puts forward the problem solving for children is concerned, as through problem-solving children able to develop their thinking skill.

The learning activity also arranged in a lesson plan in RPPH (daily lesson plan). Components in RPPH also contain the scientific approach explicitly, until the scientific process done by the teacher during learning activity in the class is clearly seen.

CONCLUSION

The conclusion of this research is learning activities that use a scientific approach can stimulate children to be able to think at a high level. This is also supported by the provocation from the teacher by using open-ended questions so that in solving problems the child can think more critically and creatively. The strategies used by the teacher in the learning process are tailored to the needs of the teacher when providing information to children and which can stimulate children's thinking abilities so that children can solve their problems in their own way.

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