Concept Learning Strategies In Developing Critical Thinking Skills In Early Childhood

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Abstract. Concept learning for early childhood is a learning method that aims to instill the concept of critical thinking in early childhood so that the child can understand the lessons given as a whole or achieve a good understanding of the concept. The concept of critical thinking in early childhood is very necessary in delivering to the next level of material understanding. In this study the authors used a descriptive qualitative method with a type of literature study approach. Sources of data used in research consist of various research journals, books, along with other records that are worthy of being used as a support for discussing the object of scientific research study. Furthermore, the process of data analysis is carried out through several stages, namely (1) reading and examining various existing data sources, (2) defining the nature of concept learning for early childhood, (3) analyzing various learning strategies based on concept learning, and (4) concluded several concept learning strategies that can be used in developing early childhood critical thinking skills. The research results found describe that concept learning strategies in developing early childhood critical thinking skills can be implemented through four forms of learning, namely (1) open minded learning, (2) brain-based learning, (3) explorative learning, and (4) experiential learning.

Keywords: concept learning, critical thinking skills.

1 Introduction

The learning process is one of the most fundamental things in the world of education. Learning includes all mental or psychological activities carried out by a person so that there is a change in behavior that is not the same between the results after the learning process and before the learning process [1]. Learning is an absolute thing for everyone, be it children, teenagers, or adults. For early childhood, the learning process becomes something essential in their development process. The learning process that is passed by early childhood will shape the character of the child when he becomes an adult. Because basically children are the creators of adults [2]. Children are gifted with a potential that adults do not have. This potential should be developed by educators and educators, especially early childhood education.

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The success of the early childhood learning process will determine the success of the child in the future. And vice versa, the failure of the early childhood learning process will result in the failure of the child in the future. This success largely depends on the learning process carried out whether it has been running effectively or not. Effective learning has a very important role in enlivening the learning atmosphere and the learning process. Effective learning will lead children to develop their potential optimally [3]. Effective learning is not learning that makes the teacher teach all the existing lessons, but learning that makes children always learn new things that they encounter in life. This is because the teacher is a mover and supporter for early childhood development, while the one responsible for bringing out the child's potential is the child himself. In the current era, it is not the time for a teacher to cram various subject matter at length to children [4]. Children will feel happier if they are invited to observe and identify an object or object, then interpret, evaluate, and make decisions on the material being studied. Children are required to solve a problem and find a solution according to their own version. Children will learn to think critically and be sensitive to environmental conditions and daily life. This critical thinking process will later be referred to as the concept learning process for early childhood.

In fact, the process of understanding early childhood concepts is still low, especially in the field of mathematics. TIMSS 2015 results, regarding diagnostic results for quality improvement and achievement improvement, achievement of Indonesian students' mathematics scores in 2015 whose population is grade 4 SD/MI ranked 45 out of 50 participants [5]. This fact is clearly still very lacking and still requires a lot of improvement in order to evaluate the location of the deficiencies in the learning process. The results of understanding the concept of elementary school children are also closely related to how the quality of learning is carried out at the previous level, namely the preschool or early age level, especially in the inculcation of learning mathematical concepts. Not only in the field of mathematics, early childhood should be taught about understanding the concepts of other subjects as early as possible in order to achieve an effective learning process as expected. Children are also expected to be able to implement the concepts learned in class in everyday life.

Based on the search results that have been carried out by the author, there are several studies that have discussions relevant to what the author is researching. *First*, research conducted by Munir, et al. which discusses the effect of Concept Attainment Model (CAM) learning on students' critical thinking skills in a high school (SMK) in the Palembang area [6]. This study uses the Quasi Experiment Design model, namely by carrying out a quasi-experimental implementation of learning based on the Concept Attainment Model in a certain time and seeing the results. These results will later be compared with students' critical thinking abilities prior to implementing the studied learning model. *Second*, research conducted by Ni Ketut Mas Astuti which discusses the Concept Attainment Model to increase the ability to understand the form of joint decisions in civics education in elementary schools [7]. The research was carried out using quantitative techniques through a series of processes that formed a complete component, namely planning, implementing, observing and reflecting. In contrast to previous research, this study focuses more on understanding the form of joint decisions in learning where the object is elementary school students. *Third*, research conducted by Fransisca Theresia Sijuang, et al. which discusses the application of the Attainment Concept learning model to increase junior high school students' mathematical activity through Classroom Action Research (CAR) with observational data collection techniques [8]. This study focuses on students' critical thinking activities in mathematics.

The three studies above basically have similarities with those conducted by the author. Namely discussing concept learning which aims to foster students' critical thinking skills which are then narrowed down to the focus of each research study, namely the ability to understand joint decisions in civics education and thinking about learning mathematics. Even so, none of the research objects used from the three studies presented specifically discussed early childhood. When a search is carried out, it is still very rare to find discussions about early childhood concept learning. Most of the research was aimed at children of elementary to high school age. In fact, early childhood is a period in which children experience rapid growth which allows them to learn many things including learning concepts. That's why the author tries to fill the research gap on previous research by presenting a novelty strategy for learning the concept of early childhood.

2 Method

Research conducted by the author uses a descriptive qualitative research model, with a type of literature study approach. Qualitative research emphasizes the author's understanding of a situation that will be described through the text or language used [9]. That's why a qualitative research will be subjective and very dependent on how much the author's understanding of a phenomenon that occurs [10]. Even though it is subjective, the type of qualitative research approach used by the author involves many sources in the research process carried out so as to minimize the invalidity of research data results. This study focuses on literature review regarding the theories that exist in various references that are relevant to the object of study to be studied. The object of study is a value, norm, or tradition that originates from social situations or phenomena that occur in everyday life [11]. In this case, the strategy for learning the concept of early childhood which in fact plays a very vital role in starting the learning process. That's why this research cannot be separated from the text used as a source of research data.

The sources of data used in this study consist of various research journals, books, and other records that are worthy of being used as a support for discussing the object of scientific research study. Basically, the writer needs to find as many data sources as possible in order to add to the breadth of the concepts studied and to obtain scientifically justifiable data. Furthermore, the data analysis process was carried out by the author through several stages, namely (1) reading and examining various existing data sources, (2) defining the nature of concept learning for early childhood, (3) analyzing various learning strategies based on concept learning, and (4) concluded several concept learning strategies that can be used in developing early childhood critical thinking skills. The four stages of data analysis must be carried out one by one in order to obtain valid research data.

3 Result and Discussion

1.1 Definition of Early Childhood Learning

Concepts Concept learning can be translated as concept learning in Indonesian. This concept learning is also known as category learning, concept attainment, or concept formation [12]. To simplify the discussion this time, the author will mostly call concept learning as concept attainment. Concept attainment is a learning model of an educational institution that is deliberately designed to organize or compile data so that important concepts can be learned and understood by students appropriately and efficiently [5]. According to KBBI, a concept is an

idea or understanding abstracted from a concrete event. Meanwhile, not all students are able to process ideas or ideas from concrete events that they experience into something abstract. Through this understanding, what needs to be underlined is the importance of students' thinking skills, especially critical thinking skills, in order to achieve the expected understanding of the concept [6]. Students' critical thinking skills will lead these students to the formation of a comprehensive concept. The formation of this overall concept is very important in equipping students to become mature individuals and be able to apply the concepts they have learned not only in class but also in everyday life.

The relationship between concept learning and early childhood is very close. This is because early childhood requires stimulation that supports their growth and development so that they can run optimally. An early childhood by nature has a great sense of curiosity, that's why he likes to find out about new things and new understandings [13]. A relatively complicated understanding or concept requires an exact explanation so that children can understand the meaning or concept to become a more flexible concept. This statement indirectly shows that the concept learning model is also interrelated with inductive learning. Inductive learning is specifically designed to make it easier for students to understand, analyze, and develop the concepts being studied more effectively [7].

Based on the description above, the author can interpret that the notion of concept learning for early childhood is a learning method that aims to instill the concept of critical thinking in early childhood so that the child can fully understand the lesson given or achieve a good understanding of the concept. This early childhood concept understanding will later be used as the basis for understanding higher learning concepts. Early childhood will easily categorize a learning concept and even develop new things in everyday life with only an understanding of the concept [8].

1.2 Stages of Concept Learning in Early Childhood

The stages of concept learning in early childhood are phases that must be passed in producing a good concept instillation in early childhood. These stages are sequential components that must be passed in the implementation of concept learning for early childhood. The stages of concept learning as presented by Joyce, Weil, and Calhoun as quoted by Fransiska Theresia Sitanding, et al. consists of three stages, namely the data presentation stage and concept identification, the concept achievement testing stage, and the thinking strategy analysis stage [8].

Stage of Data Presentation and Concept Identification. At this stage, the teacher's task is to provide examples of new data to early childhood with a special label, namely "Yes" for positive data and "No" for negative data. Labeling in this case is to categorize some of the data that you want to present and serves to make it easier for young children to recognize the data presented. Examples of data that will be presented can be in the form of people, events, fairy tales, pictures, and others which can be used as learning objects for instilling concepts in early childhood. Furthermore, the task of early childhood is to identify the characteristics of each data that has been labeled earlier. Children can identify based on the most basic traits and characteristics for them and will likely differ from one child to another depending on the child's interests or interests. After that, the child will be asked to develop an opinion regarding the results of his identification and name the results of his identification. When the child has succeeded in identifying and naming the results of his thinking, indirectly the child has succeeded in recognizing his own version of the "concept".

Concept Achievement Testing Stage. At this stage early childhood gets additional sample data that is not labeled "Yes" and "No". Furthermore, the child is asked to correctly identify the sample data by paying attention to the discovery of the concepts that have been obtained in the previous stage. The teacher and the child will correct the positive and negative examples together and revise the concept based on the correct examples. Finally, the children are asked to give other examples that are in accordance with the concept according to their respective opinions.

Thinking Strategy Analysis Stage. At this stage, the child will be asked to describe the findings of the examples that have been presented. Discuss how the role and nature of the concept of the findings. Describe the reason why the child named his concept findings with that name. Because basically the child's thinking strategy varies. There are those who choose to narrow down the concept so that it is more detailed, on the other hand there are also those who provide general and concise concept ideas [6].

1.3 Concept Learning Strategies for Early Childhood

The purpose of concept learning is to instill critical thinking in early childhood. This critical way of thinking is the basis for children to gain an understanding of the concept of a lesson. In order to develop critical thinking skills in early childhood, it is necessary to have a learning model that is able to train these abilities. There are several learning models that can be used as strategies in realizing the goals of concept learning which in practice can be adapted to the needs of each child, namely (1) open minded learning strategies, (2) brain based learning, (3) explorative learning, and (4) experiential learning.

Open Minded Learning Strategy. This open ended learning strategy was born around the 70s from the results of research conducted by Shigeru Shimada, Toshio Sawada, Yoshiko Yashimoto, and Kenichi Shibuya. This learning strategy emphasizes openness for students to find the right answer in their own way. It can even produce more than one correct answer. In other words, this strategy gives complete confidence to young children to gain knowledge or experience in finding, identifying, and solving problems with certain techniques or ways. Early childhood is required to be open in these learning strategies.

Open minded learning strategies are based on several assumptions or assumptions. *First*, context and experience are important things to understand. A learning will automatically run effectively and optimally if it is enriched with children's experiences that are concrete and can be found, modified, and even directly applied in the field. The more experience the child has, the greater the opportunity for the child to develop concepts in the ongoing learning. *Second*, learning must be mediated individually not in groups. Mediation includes what, when, and how learning occurs. So that every child will understand in detail about the learning delivered [14]. *Third*, Improving cognitive thinking processes is often more important than creating learning products. So that it is necessary to have a good cognitive skills environment in early childhood that includes identifying variables or data, interpreting or interpreting data, to formulating concepts or hypotheses as well as the experimental process of testing the relevant concepts. *Fourth*, understanding is better and more valuable than just memorizing and knowing. This is the most important thing in open minded learning, namely that various experiences can increase early childhood understanding through exploration, manipulation, and opportunities to thoroughly understand an idea rather than just direct learning. *Fifth*, the learning processes are qualitatively

different. Open ended focuses on problem solving skills in an authentic context and provides opportunities for young children to explore abilities and develop theories or concepts [14].

Learning Strategy Brain Based Learning. As the name implies, brain based learning is a learning model that emphasizes empowering the potential of the brain. Brain based learning provides a suggestion to the world of education that the learning process goes according to the way the brain functions. The brain was created for nothing but to learn and record all the learning that has ever been given to a child. The brain can process knowledge in many different ways. These methods include investigating or analyzing, assessing, judging or justifying, making a decision and others [15]. In this case the role of the teacher or educator is only to provide an appropriate environment to support the learning process so that it can run optimally and optimally according to the way early childhood brains learn.

In practice, there are three strategies that can be developed in carrying out brain-based learning models or brain-based learning. *First*, create a learning environment that challenges the abilities and ways of thinking of early childhood. Basically the teacher will definitely design learning that is packaged creatively, interestingly, and innovatively. Likewise, the questions given must be varied and attractive in order to optimize the child's brain function. These questions will facilitate children's thinking from the knowledge stage to the evaluation stage according to the stages of the thinking process according to Bloom's Taxonomy. With these questions, it is hoped that children will get used to developing their thinking skills and exploring their ability to find answers to the questions given. *Second*, create a fun learning environment. By creating a fun learning environment, children will be suggested to be more enthusiastic about learning and the brain thinking development process will be able to run more optimally. Children by default will prefer what they learn when they also like the existing environment. *Third*, create an active and meaningful situation for early childhood. This is very important in order to create positive and unforgettable experiences for early childhood. Students are given a stimulus through various learning activities that can build their knowledge actively [15].

There are twelve main principles of brain based learning according to Caine, namely (1) the brain is a parallel processor, (2) learning needs to involve all physiological processes, (3) seeking understanding or understanding is the initial human desire, (4) understanding occurs if patterns/patterns can be formed, (5) emotions are important in forming patterns or patterns, (6) the brain can process all and part of knowledge at once, (7) learning involves focusing attention on the peripheral environment, (8) learning involves conscious processes and unconsciously, (9) there are two types of memory, namely rote and spatial, (9) learning is a development, (10) understanding is formed if facts are stored in spatial memory, (12) each brain is unique and each individual is different [15].

Explorative Learning Strategies. Explorative is defined in KBBI as "explorative in nature, investigation, exploration, exploration". The term exploratory is often known as an analytical activity or field exploration with the aim of gaining more knowledge than usual. Exploration is usually associated with exploration, investigation or analysis, and the discovery of natural resources found somewhere [16]. The potential of early childhood in this exploration activity is also explored in order to balance the process of extracting knowledge. In line with this explanation, exploratory strategies in the scope of early childhood are interpreted as a learning strategy which in practice is mostly carried out by children by discovering through various activities. For example, discovery, search, and investigation, while the teacher's duty is to provide instructions or directions along with challenges to children in the form of a problem that

requires children to explore knowledge of solutions and so that early childhood is willing to explore so that in the end the child can find the concept according to himself.

Basically the term explorative is more often heard in the world of geology. Geologists usually view exploratory activities as exploration to find a place where natural resources are. However, the current explorative term can also be juxtaposed with the world of education. Especially in learning mathematics which has a constructivism learning style. In constructivism theory, the process by which children build their knowledge is through an abstract reflection process. Children must be trained to think and develop their thinking skills by making observations, supporting activities, and various experiences that occur outside of formal activities. The teacher must also provide a connection between facts and concepts so that children's understanding can be built [16].

Experiential Learning Strategy. In learning that uses experiential learning strategies, children will spend more time directly involved in order to gain as much experience as possible. This is because basically experimental learning (experiential learning) in early childhood is a child-centered learning strategy through real learning activities in order to increase the knowledge and skills of early childhood. The process of understanding children occurs when children see and learn from the environment around them. When children interact with the surrounding environment, a learning process will occur in the child concerned [17]. The more children carry out the process of interaction with environmental objects, the better the process of forming conceptual understanding in children. This strategy is suitable for instilling science concepts in early childhood. For example, experience-based learning with gardening activities to instill understanding of the concept of the importance of protecting the natural surroundings.

4 Conclusion

Concept learning for early childhood is a learning method that aims to instill the concept of critical thinking in early childhood so that the child can understand the lessons given as a whole or achieve a good understanding of the concept. The stages of concept learning as presented by Joyce, Weil, and Calhoun consist of three stages, namely the data presentation and concept identification stage, the concept achievement testing stage, and the thinking strategy analysis stage. Each of these stages forms a component that supports each other in realizing an understanding of early childhood concepts. Several strategies in concept learning or concept learning are open minded learning strategies, brain based learning strategies, explorative learning strategies, and experiential learning strategies. These strategies have relatively the same goal, namely to realize children's critical thinking in the framework of forming a comprehensive concept.

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