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**USE OF DIGITAL ENCYCLOPEDIA MEDIA TO DEVELOP COGNITIVE ASPECTS OF  
EARLY CHILDHOOD**

(Case Studies In Hati Bunda Daycare, Cimahi City)

**Dian Supriatin**

**IKIP SILIWANGI**

diansupriatin2312@gmail.com

**ABSTRACT**

Early childhood education is essentially education organized with the aim to facilitate the growth and development of children as a whole. Cognitive development refers to the child's development in thinking and the ability to give reasons. Digital encyclopedia media is one of the supporting activities in playing, because through these media children can find out a lot of things by looking at pictures, writing, listening to sounds, also can grow cognitive development or knowledge of children about everything that is found or not around their environment. The research method used in this study is descriptive with qualitative analysis with data collection techniques through observation of four students with age groups 5 to 6 years and interviews with two teachers, documentation and literature. The objectives of this study are: (1) to describe the planning of using digital encyclopedia media to develop cognitive aspects of early childhood, (2) to know the use of digital encyclopedia media in developing cognitive aspects of early childhood, (3) knowing the results of the application of media encyclopedia digital in developing cognitive aspects of early childhood (4) knowing the factors that become difficulties or obstacles in the use of digital encyclopedia media.

**Keywords:** Early Childhood, Cognitive Development, Digital Media Encyclopedia

**INTRODUCTION**

Education in Early childhood basically covers all efforts and actions taken by educators and parents in the process of care and education in children by creating an aura and environment where children can explore experiences that provide opportunities for them to know and understand learning experiences that obtained from the environment, through observing, imitating and experimenting that take place repeatedly and involving all the potential and intelligence of early childhood.

Based on the Republic of Indonesia Law Number 20 of 2003 concerning the National Education System Chapter 1, Article 1 Point 14 states that Early Childhood Education is a coaching effort aimed at children from birth to 6 years of age through the provision of educational stimuli to help growth and physical and spiritual development of children to have readiness to enter further education.

Early Childhood Education is also a form of education that focuses on laying the foundation towards physical growth and development (fine and rough motor

coordination), intelligence (power of thought, creativity, emotional intelligence, spiritual intelligence), socioemotional (attitude, behavior and religion), language and communication, in accordance with the uniqueness and stages of development that early childhood goes through.

According to F.J. Monks, (2001) in (Desmita, 2015), broad development refers to a process that is more perfect and cannot be repeated. Development is also defined as an eternal and permanent process that leads to an organization at a higher level of integration, based on growth, maturation and learning. Developmental psychologists recognize that cognitive development takes place continuously and follows a developmental stage.

Cognitive development refers to the child's development in thinking and the ability to give reasons. Cognitive development is also characterized by an ability to plan, run a strategy to remember and to find solutions to a problem faced. Based on Piaget's theory according to Nixon and Gould (1999: 12) in Sujiono (2009: 78) describes cognitive development in several steps, which includes the sensorimotoric stage (birth-2 years), preoperational stage (2-7 years), operational concrete stages (7-11 years) and formal operation phase (11-16 years).

Catron and Allen (1999: 23-26) in Sujiono (2009: 62-63), mention that there are 6 aspects of early childhood development, namely: personal awareness, emotional health, socialization, communication, cognition and motor skills are very important and must be considered as an interaction function. Based on the theory of child development, it is believed that every child is born better than one talent. For this reason, children need to be given education in accordance with their development by enriching their playing environment. Cognitive theory is based on the assumption that cognitive abilities are fundamental and that guide children's behavior. With this cognitive, children are seen as individuals who actively build their own knowledge about the surrounding environment.

In general, children are interested in something that contains multimedia or technology-based, such as music, animation or dynamic images. Digital encyclopedia media is an interactive learning media designed with a collection of information to guide children in the learning process with multimedia or audio visual elements contained in it. The digital encyclopedia application generated from research can be in the form of portable digital encyclopedias, digital pens, etc., which are easy to use and have a great influence on children's learning, especially early childhood. The digital encyclopedia media used in learning activities at Hati Bunda daycare is a modern encyclopedia media that can display still images and sounds that are not normally possessed by conventional encyclopedias, so that the media is used as one of the sources and media in early childhood learning at Hati Bunda daycare. The use of digital encyclopedia media is very helpful for educators in stimulating students to observe, ask, collect information, associate and communicate various thematic information that will be delivered to children.

## **METHOD**

This study uses a qualitative descriptive approach that is trying to reveal the symptoms found in the field in a comprehensive, holistic contextual, that is comprehensively as a whole by using observation techniques with the object of research consisting of 4 children aged 5 to 6 years, interviewing two teachers in the age group and documentation is also carried out during the activity and the combination of the three techniques and literature.

## **RESULTS AND DISCUSSION**

### **A. Planning to Use Digital Encyclopedia Media to Develop Early Cognitive Aspects of Children**

The use of digital encyclopedia media in developing cognitive aspects of early childhood, at the Hati Bunda Daycare can be implemented in accordance with the planning which includes classroom management by arranging room infrastructure, preparing learning resources and storing supporting playgrounds. In the implementation process, it is adapted to the 2013 Early Childhood Education curriculum by optimizing child development and using scientific thematic learning. This is in line with Majid's opinion (2011: 7) which describes about learning planning when viewed from the components of learning management competencies, namely describing learning objectives, determining learning materials, organizing learning materials, determining learning strategies / methods, determining learning / media resources / learning props, compile assessment tools, determine assessment techniques and allocate time. In addition, it is also in line with other opinions from Majid (2011: 92-94) which states that the steps in planning consist of diagnosing needs, determining goals, identifying learning techniques, formulating and planning learning, providing motivation and program implementation, measurement , level evaluation and determination.

### **B. The Process of Using Digital Encyclopedia Media to Develop Early Cognitive Aspects of Children**

The implementation of learning in institutions is adjusted to the Education Unit Level Curriculum or early childhood education. The steps in preparing the implementation of the digital encyclopedia media use are adjusted to the center learning model which will be incorporated into the Daily Learning Implementation Plan, which includes environmental footing, footing before playing, footing when playing, footing after playing. In the implementation of learning by using a digital encyclopedia as a learning medium, the methods used include the storytelling method, the question and answer method and also the discussion method. With this method students learn through active learning, where students are given the opportunity to think, find and find their own answers from the media. This is in line with the opinion of Fadillah (2016: 163-179), stating that there are several methods that can be applied and used in the process of early childhood learning that have been adapted to the conditions and characteristics, including lecture method, question and answer method, method habituation, exemplary methods, playing methods, storytelling methods, singing methods, natural tourism methods, problem solving methods, simulation methods.

Learning by using the digital encyclopedia media serves to provide feed back for teachers, knowing the difficulties of students, knowing various aspects of development, especially cognitive aspects and as a means to facilitate assessment. This is in line with the opinion of Fadillah (2016: 236), which states that the function of implementing learning is to provide feedback to the teacher to improve teaching and learning activities including in the program of activities, knowing the level of physical and mental development achieved by the child, knowing the obstacles, difficulties experienced children in teaching and learning activities, assessing the level of knowledge and skills and attitudes of children.

### **C. Results of Using Digital Encyclopedia Media to Develop Early Cognitive Aspects of Children**

Based on the results of interviews and observations with two teachers and four students, obtained results or assessments in the use of digital encyclopedia media that can develop the cognitive aspects of early childhood in the HAti Bunda's daycare. Assessment procedures are carried out every day and refer to the Child Development Achievement Level Standards. Assessment is carried out when learning activities and play activities take place, which will then be transferred to the monthly appraisal that will be a reference for the teacher to carry out a descriptive assessment objectively, continuously, transparently and comprehensively. This is in line with the National Standard Permendikbud of early childhood education assessment procedure No. 137 of 2014 concerning standards and 2014 regarding curriculum of early childhood education, which states that : the teacher carries out an assessment by referring to the level of development achievement in a plan, the assessment is carried out integratively, recording daily assessment results included in the Daily Activity Plan or Daily Learning Implementation Plan, which will then be summarized into a monthly assessment as a reference for compiling the final development report that will be made in a description.

Techniques or forms of assessment using digital encyclopedia media, are carried out by looking at the daily activities of students during the learning that are recorded in anecdotes and checks or rating scales. The use of digital encyclopedia media to develop early childhood cognitive aspects can be seen from several basic competencies achieved, including: Behavior that reflects curiosity, behavior that reflects creative attitudes, the ability to know how to solve everyday problems and be creative, the ability to recognize the surrounding objects, the ability to get to know the social environment, and the ability to get to know the natural environment.

### **D. Inhibiting Factors in the Use of Digital Encyclopedia Media**

Based on the results of interviews with teachers in the 5-6 year age group, the use of digital encyclopedia media was initially only used conventionally without audio media due to teacher unpreparedness in its use. The procurement of digital encyclopedia media in the Institute has also not been facilitated in sufficient quantities, so that in its use it still has to alternate between one class and another. This is in line with the opinion of Fadillah (2016: 213), which states that there are weaknesses in audio visual media in learning activities, including manufacturing costs that require high costs and expensive equipment. Whereas according to Rima Wati (2016: 63) one of the

drawbacks of audio visual media is that it is not enough to be able to display the details of objects that are presented perfectly, expensive and complex equipment, the attention of the audience is difficult to master.

## CONCLUSION

Based on the results of research on data, interviews and observations regarding the use of digital encyclopedia media to develop the cognitive aspects of early childhood in the Hati Bunda daycare, the results of the study can be summarized as follows:

### **1. Planning the use of digital encyclopedia media to develop cognitive aspects of early childhood**

Planning procedures in the use of learning media, especially for Early Childhood Education, are basically tailored to the goals and needs of the students themselves. The next step that must be done by a teacher is to determine learning material with methods and teaching aids or learning media that are in accordance with the needs and material to be delivered. The final step that must be done by the teacher is to develop an assessment tool by determining the form or technique of assessment as to what will be done.

### **2. The process of using digital encyclopedia media can develop cognitive aspects of early childhood**

The implementation of learning using digital encyclopedia media is generally similar to the implementation of other learning. Hati Bunda's daycare are implements the "My First Encyclopedia" program for students with the 5-6 year age group through a modern learning media namely digital encyclopedia. The implementation of learning in these institutions is adjusted to the Education Unit Level Curriculum of early childhood education with a center learning model, which includes: environmental footing, footing before playing, footing when playing and playing after playing. In the use of digital encyclopedias as learning media, suitable methods to be applied include the storytelling method, the question and answer method and the discussion method.

### **3. The results of using digital encyclopedia media can develop cognitive aspects of early childhood**

Assessment procedure for National PAUD Standards Permendikbud No. 137 of 2014 concerning PAUD standards and 2014 concerning PAUD curriculum, becomes a reference for teachers to assess the results of activities or learning. Assessment of the use of digital encyclopedia media is carried out objectively, continuously, transparently and comprehensively. The technique or form of assessment used by the teacher in the form of anecdotal notes and rating scale / checklist. The basic competencies achieved are focused on cognitive development programs for children aged 5 to 6 years.

### **4. Inhibiting factors in the use of digital encyclopedia media**

Learning media consists of various types, both modern and conventional. The use of digital encyclopedia media to develop cognitive aspects of early childhood has several obstacles both internally and externally. The limitation of the institution in facilitating the number of digital encyclopedia media, the presence, behavior and unpreparedness of students to receive the material presented, and the proliferation of sophisticated technologies such as smartphones or gadgets that are more attractive to children, make the inhibiting factor in the use of the encyclopedia

media. The teacher's unpreparedness in using digital encyclopedia media and the ability to deliver material that must be in accordance with the media are the main inhibiting factors in the success of learning using the digital encyclopedia media.

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