The Implication of Piaget’s Cognitive Theory on Indonesian Learning through Bigbook

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Abstract

At the madrasah ibtidaiyah level, Indonesian language lessons are very important in enabling students to comprehend reading concepts, use and reflect on written reading. The research method employed a qualitative case study method. This research was carried out at the NU Tarbiyatuth Thullab madrasah ibtidaiyah, using data triangulation techniques (interviews, observation and documentation). The results of this research show that Indonesian language learning at MI NU Tarbiyatuth Thullab uses bigbook media to deepen students’ comprehension. Additionally, teachers also apply the theory of student cognitive development through Jean Piaget’s theory. The benefits of using bigbook and applying Piaget's theory help teachers in developing student’s reading abilities. Through the application of Piaget's theory, teachers could understand students' cognitive capabilities based on their developmental ages. Through bigbook learning media, students become more enthusiastic and interested as the materials contained interesting stories.

Keywords: Cognitive Theory, Cognitive, Piaget, Bigbook, Indonesian Lesson


INTRODUCTION

In the 21st century, there are six fundamental skills that students must master, and one of them is the ability to read. The ability to read is closely linked to Indonesian language subjects. It is essential to increase students’ interest in reading, especially at the madrasah ibtidaiyah level. The rapid advancements in science require all students to have better reading and writing skills to equip them with sufficient knowledge and insight to complete and keep up with current developments. Reading activities are always associated with access to information and knowledge, so reading comprehension plays a crucial role in a person’s success or failure and is one of the determining factors (Nudiati, 2020).

At the Madrasah Ibtidaiyah level, Indonesian language lessons hold great importance. This is because students are expected to comprehend the concepts of reading and use and analyze written texts to achieve their goals as required. These abilities are crucial for students to face the challenges in the era of the Fourth Industrial Revolution. To accomplish these learning objectives, four essential skills must be acquired by students: critical thinking, creativity, collaboration, and communication (Habibi & Suparman, 2020). Due to the complexity of the skills that must be mastered, there are several issues in the Indonesian education system. One of them is the problem of approaches, methods, and learning media used in classrooms. Many educators still use the
outdated teacher-centered learning teaching model. Students are rarely allowed to express their opinions and are often treated as passive objects of learning. As a result, they do not have the chance to develop their ability to think holistically and critically, be creative and objective, and think logically (Muhali, 2019).

According to the 2022 PISA (Program for International Students Assessment) report, the reading literacy skills of Indonesian students have improved, as they have moved up by five positions compared to the previous year. However, their score decreased from 371 to 359. Based on this score, it can be inferred that Indonesian students still need to improve their reading skills to meet the Organization for Economic Cooperation and Development (OECD) standard (Kemendikbud, 2023). As part of the development of the independent learning curriculum, the Minister of Education, Nadiem Makarim, has launched four main policies for independent learning. One of these programs is the implementation of a minimum competency assessment (AKM), which is a national assessment now known as the National-Based Assessment on Computer (ANBK). Additionally, the Minister of Religion is working on improving the quality of education for madrasah students through the implementation of the Indonesian Competency Assessment (AKMI). This program aims to address competencies that are not yet covered by AKM. Starting in 2021, AKMI will be implemented and will include four basic competencies: numeracy literacy, reading literacy, scientific literacy, socio-cultural literacy, and character survey.

Improving the quality of education in Indonesia requires strong reading literacy as a foundation to work on assessment questions. According to an interview with the head of student affairs, UR teacher of MI NU Tarbiyatuth Thullab, the ANBK and AKMI questions have different characteristics from the previous national exam questions. The national assessment questions focus on students’ critical thinking abilities and problem-solving skills, rather than just memorization and recall. The question structure includes a stimulus with long and complex reading materials. The teacher UR said that “students must be emphasized on the importance of developing these skills to succeed in the national assessment. During the national assessment, it was observed that a few students didn’t read the text thoroughly. Instead, they rushed through the questions without taking adequate time to comprehend the given text. Shockingly, one student completed the assessment in just 15 minutes. When asked about it, the student revealed that they wasn’t fluent reader and couldn’t understand the meaning of the given text.” (UR, 2023)

As a deputy head of student affairs, the UR teacher noticed that many lower-grade students were struggling with reading fluently. In preparation for the national assessment the following year, the teacher conducted examinations and checks on these students. After consulting with all the homeroom teachers, it was discovered that many first-grade students were still struggling with reading fluently. The first grade teacher reported that out of the 18 students in the class (8 female students and 10 males students), 7 students were still struggling with reading and spelling, 11 students could read fluently but lacked comprehension skills, and only 4 students could read fluently and understand the meaning of the text (Guru ANC, 2023). The teacher mentioned that achieving national assessment scores that meet expectations is not an instant process. It requires a learning process starting from lower grades, which includes students’ mastery of reading and writing. If students are already proficient in literacy at an elementary level or in lower grades, they will be able to answer national assessment questions with ease. Therefore, it is crucial to emphasize the improvement of the learning process at all grade levels, especially in first grade as it forms the basis for students’ cognitive development (UR, 2023).

To be able to go through the learning process, three things need to be changed namely intellectual potential (cognitive). Moral potential of personality (affective) and mechanical or muscular abilities (psychomotor) (Muhammad Alpin Hascan & Suyadi, n.d.). The issue of students’ lack of understanding in reading at MI NU Tarbiyatuth Thullab can be addressed by emphasizing the cognitive learning process. Cognitive is a mental process that involves the ability to form mental images, symbols, reactions, and ideas, characterized by values and considerations.
Therefore, the cognitive component plays a crucial role, particularly in enhancing thinking abilities.

The cognitive abilities of primary school students at the madrasah ibtidaiyah level differ from those of adults. As children grow, their cognitive abilities also develop. Parents and educators need to provide proper guidance and support from an early age. Cognitive development refers to the changes that occur in a child’s ability to perceive and understand things, process information, and solve problems as they grow. Jean Piaget, a renowned scholar, studied cognitive development and proposed a theory that outlines the different stages of cognitive development in children (Akmillah Ilhami, 2022). Terdapat teori pembelajaran yang berbeda dalam dunia pendidikan, masing-masing dengan prinsip dan konsep berbeda. Teori belajar sebagai cara untuk menjelaskan bagaimana orang belajar memfasilitasi pemahaman pembelajaran tentang proses pembelajaran yang pada dasarnya kompleks. Teori pembelajaran mengacu pada konsep dan prinsip pembelajaran yang bersifat teoritis dan yang kebenarannya diuji melalui eksperimen (Muhammad Alpin Hascan & Suyadi, n.d.).

Cognitive development, a process that occurs over time and is influenced by both genes and experiences (Akmillah Ilhami, 2022). Cognitive learning rooted in an individual’s mental frameworks, which help them organize and make sense of information they perceive. A person’s level of spirituality is said to increase as their cognitive development progresses. When a person’s cognitive development reaches a certain level, they become capable of processing and comprehending all the knowledge they receive from their environment.

Cognitive development often depends on how actively children engage in active relationships with people around them (Nuryati & Darsinah, 2021). Jean Piaget’s theory of cognitive development emphasizes that there are three key aspects involved in the cognitive development of every individual. These aspects include cognitive content, structure, and function. Cognitive content refers to a person’s behavior that is revealed when responding to various problems. Cognitive structure is a mental organization that is formed when a person interacts with the environment in which they live. Lastly, cognitive refers to the way in which a person increases their intelligence (Nuryati & Darsinah, 2021).

Language development is an essential part of a child’s cognitive growth. The ability to think and communicate effectively with their surroundings is directly linked to this development. If a child experiences a delay in language skills, it can negatively impact their social and personal interactions. As a result, they may face difficulties in learning, socializing, and working in their future endeavors.

Children require Indonesian language skills to effectively communicate, socialize, and interact with their peers and their surroundings. The ability to communicate in a language is a crucial aspect of a child’s development. With proficient Indonesian language skills, children can develop social skills by interacting with people around them. Language enables them to express their thoughts and ideas and understand the perspectives of others. Therefore, Indonesian language skills can be considered a determining factor for a child’s success or failure in life.

According to previous research, Nila said that cognitive theory contributes and plays an important role in the learning success of fifth-grade students. Because most of the activities in learning are always related to memory and thinking. In this case, the optimal application of cognitive theory can influence learning success, especially in fifth-grade mathematics classes (Nila, 2021). According to previous research conducted by Devi Yuyun, the cognitive development of children in the age range of 7 to 12 years old varies at different stages of development. The lessons taught in elementary school are specifically designed to be age appropriate, in accordance with Jean Piaget’s developmental theory which explains how individual grow, adapt and change throughout their lives in terms of their physical, personality, social emotional, cognitive and language development (Yunaini & Yuyun Winingsih, 2022).
The Implication of Piaget’s Cognitive Theory on Indonesian Learning through Bigbook.

This research aims to investigate the implementation of Piaget’s Cognitive Learning Theory in Indonesian Language learning through the use of big books, building upon the prior research.

METHODS

In this research, the researchers utilized a qualitative approach, specifically the case study method. Qualitative research is a type of research the aims to understand the role of groups and interactions in certain problem situations. The necessary steps in concluding such research include forming an abstraction by providing a qualitative analysis description and interpreting the data based on the object’s point of view (Najmuddin1, Fauzi2, 2019). In qualitative research, each stage has distinct characteristic that involves investigating problems and developing a detailed understanding of phenomena. This is followed by collecting data through words (such as interviews) and images (such as photos) (Creswell, 2012). Qualitative methods are used to obtain in-depth data that contains meaning (Sugiyono, 2015). Qualitative emphasized process analysis and inductive thinking with the dynamics of the relationship. Between observed phenomena and always using scientific logic (Saepudin, 2019). *Case study are qualitative strategy in which the researcher explores in depth a program, event, activity, process, or one or more individuals* (Sugiyono, 2015). A case study is a model that focuses on extracting data in depth to examine in detail the limitation system in one case or part of a case. Various sources of information that provide context can be used to develop data (Khaerunnisa, 2020). Researchers conducted this case study research at Madrasah Ibtidaiyah Muhammadiyah NU Tarbiyatuth Thullab Kudus. The research was conducted in October 2023, odd semester in academic year 2023/2024. Researchers collected data through interviews, observation, and documentation on teachers of the first-grade students and the Deputy head of student’s affairs at Madrasah Ibtidaiyah NU Tarniyatuth Thullab.

**Table 1. Data Source**

<table>
<thead>
<tr>
<th>Initial Position</th>
<th>Position</th>
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<tbody>
<tr>
<td>ANC Teacher</td>
<td>The first-grade teacher</td>
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<tr>
<td>UR Teacher</td>
<td>Deputy Head of Students Affairs</td>
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</table>

Researchers require data collection techniques to obtain the necessary information. Qualitative research data collection can be conducted in different settings, sources, and ways. There are generally four types of data collection techniques, namely observation, interviews, documentation, and combination or triangulation (Sugiyono, 2015). The research used triangulation techniques for data collection, including interviews, observation, and documentation. The interview was conducted with the first-grade teacher named ANC and the deputy of head student’s affairs named UR at madrasah ibtidaiyah NU Tarbiyatuth Thullab Kudus. The interview lasted 45 minutes and included 20 questions.

During the research, structured interviews were used to collect data. To begin an interview, a set of written questions was prepared to be asked to the respondent. In addition to interviews, researchers also used participatory observation to gather information. They followed learning and evaluation activities and used them as sources of research data. Documentation was done by taking notes, activity plans, and photos. Through documentation, researchers could obtain clear and accurate explanations from the results of interviews and observations. The data analysis technique used in this research was the Miles and Huberman model, which involved three stages: reducing data, presenting data, and verifying data or making conclusions (Aiman, 2016).
FINDING AND DISCUSSIONS

Cognitive development refers to the development of cognitive abilities in children, such as problem-solving and thinking skills. It is an essential aspect of learning the Indonesian language.

At MI NU Tarbiyatuth Thullab Kudus, teachers use Jean Piaget’s theory of cognitive development and big book media to enhance the reading fluency and comprehension of first-grade students. The focus is not only on using Indonesian for communication but also on understanding its meaning and using appropriate words based on cultural and societal norms. Indonesian language learning aims to equip students with language skills, including listening, speaking, reading, and writing, so they can express their ideas and thoughts critically and creatively (Guru ANC, 2023).

Children require proficiency in the Indonesian language to effectively communicate, socialize and interact with their peers and surroundings. Language skills play a vital role in the overall development of children. Proficient Indonesian language skills equip children with the ability to develop their social skills and interact with their environment. Through language, children can express and articulate their thoughts and ideas, with the aim of making others understand them better. Thus, Indonesian language proficiency can be considered a crucial indicator of a child’s success in life. Therefore, teachers must provide elementary or madrasah ibtidaiyah students with relevant materials, strategis, and learning media that can be connected to their daily activities. According to Piaget’s cognitive theory, children’s concrete operational thinking started at the age 7 to 12 years old when they begin school.

Concrete operational thinking is what Piaget means: a condition where children are able to use their minds to think logically about something concrete or real. At this stage, logical thinking replaces intuitive thinking (instinct) with thinking conditions to be applied to real concrete examples. In teaching Indonesian language learning, ANC teachers apply Piaget’s developmental theory, the stages of which are as follows:

Sensorimotor stage (age 0-2 years) the motto for mental progress at this stage use the process of “decentration” which means that at this age the child does not separate themselves from their current situation. In this concrete stage, the child moves from the natural reflex activity of entering the world to the beginning of representative reasoning. Newborn children gather an understanding of the world through planning tactile encounters with actual activities. Children have natural reflexes and a tendency to explore their own reality. As a result, children’s current abilities are very limited to the development of reflexes, after which only five are recognized. And at this point, the development of reflexes as tendencies is formed. So far, children are still selfish, because the younger generation is not yet able to take into account the needs, demands, and interests of other people (Hazmi, 2023).

During the Pre-Operational Stage, which occurs from 2 to 7 years old, children possess the ability to think at a symbolic level, but are not yet able to use cognitive operations. This implies that they cannot use logical reasoning such as changing, combining, or separating ideas and thoughts. This level can be identified through their use of symbolic language, such as images and spoken words. Continual exposure to language helps children develop their intelligence and promotes the growth of their thinking skills, as it allows them to explain things in various ways (Agustyaningrum et al., 2022).

Special Surgical Stage The important stage of medical intervention occurs between the ages of 7 and 11 years old. At this stage, children think intelligently in the context of important events and categorize objects into different structures. While there are currently features to characterize such things, features that address specific problems do not yet exist. On a practical level, children can preserve this important activity by intellectually achieving something that others cannot do without sincere effort. What determines performance at a key functional level is grouping or dividing things into different sub-areas and recognizing their connections (Hazmi, 2023).

Formal Action Stage (Age 11 and above) At these stages, children are able to draw conclusions from existing information without having to deal directly with objects or events.
Skills that can be trained include mathematical calculations, creative thinking, abstract thinking, and imagining the consequences of certain actions (Agustyaningrum et al., 2022).

The first-grade students who attend MI NU Tarbiyatuth Thullab are typically between the ages of 6 to 7 years old. At this stage of their development, they are still in the pre operational phase, which means that they often rely on symbolic language, images, and spoken words to understand things. To aid in their learning of Indonesian, ANC teachers use bigbooks as a medium. Bigbooks are particularly helpful for students, as they contain lots of images and writing that are designed to help them understand reading. The structure of bigbooks typically features stories written with a great deal of pictures and only a little writing, but this still allows the students to grasp the meaning of what they are reading.

A big book is a large format book designed for shared reading activities between teachers and students. The text and images are enlarged to make it easier to read and follow along (Sulaiman, 2017). A big book is a type of reading material that has a larger size, bigger fonts, and more illustrations. It is commonly used in early grades as it caters to the specific needs of young students. Teachers can choose a big book that matches students’ interest to fit the topic of the lesson. Additionally, teachers can create their own big books tailored to their students’ needs. Big books typically contain colorful illustrations and short stories that use simple language. They are widely used in science class and are well-linked by students (Harzuliana et al., 2022).

After considering the experts’ opinions, the researchers concluded that a big book is a type of learning material that is characterized by its larger size, extensive text and images, and vibrant color designed to capture students’ attention.

So that learning can be more effective and successful, a big book should have the following characteristics: (a) short story (10-15 pages); (b) sentence patterns are clear; (c) images have meaning; (d) the type and size of the letters are legible; (e) the storyline is easy to understand.

Teachers can create big books either by themselves or by collaborating with other teachers. Manual tools can be used to create big books, or computer technology can be used with specific programs or software. The following are the steps for creating a big book using manual tools: (a) prepare at least 8-9 pages or 10-15 pages of A3 size paper, colored markers, glue and HVS paper; (b) determine a story topic; (c) develop the story topic into a complete story in one or two sentences according to the level or grade level. White short the sentences on HVS paper in this way: cut the HVS paper into four pieces lengthwise, write each using a large marker (whiteboard marker) each sentence of the same size on ¼ sized HVS paper, write the sentence with the correct alphabetical letters according to the rules. Paste each sentence on the page according to the original plan: (a) Prepare illustration images for each page according to the content of the story. Illustrative images can be created or taken from existing sources; (b) Determine the appropriate title for the big book. Also, choose an interesting illustration that matches the title, and write the name of the author; (c) Curriculum structure and Indonesian Language Learning at MI NU Tarbiyatuth Thullab.

Thullab according to UR teacher is that the curriculum structure describes the conceptualization of curriculum content in the form of subject, the position of content or subject in the curriculum, the distribution of content or subject in semester or year, the learning load for subject and study lead per week for each students (UR, 2023).

The curriculum structure is a description of the application of curriculum principles regarding the position of a student in completing learning in a unit or level of education. The curriculum structure consists of several subjects and learning loads.

The structure of the MI NU Tarbiyatuth Thullab Kudus curriculum as contained in KMA number 184 of 2019 is as follows:

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<tr>
<th>No</th>
<th>Subject</th>
<th>Amount of time allocation per weeks</th>
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<td>I</td>
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<td>Grup A</td>
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(Improving Learning Outcomes of Grade III Students of SDN Gondek by Using The Direct Method in Theme 3 Book "Objects Around Me")
The objectives of learning Indonesian at MI NU Tarbiyatuth Thullab: (a) Communicate effectively and efficiently in accordance with applicable ethics, both orally and in writing; (b) Appreciate and be proud to use Indonesian as the language of unity and language stages; (c) Understand Indonesian and use it appropriately and creatively for various purposes; (d) Using Indonesian to improve intellectual abilities, as well as emotional and social maturity; (e) Enjoy and utilize literary works to broaden horizons, refine character, and improve students’ language and skills.

Appreciate and be proud of Indonesian literature as a cultural and intellectual treasure of Indonesian people.

CONCLUSION

After analyzing the result and discussion, it can be concluded that MI NU Tarbiyatuth Thullab uses big book media for teaching Indonesian language. The teacher also applies Jean Piaget’s theory of cognitive development in their teaching methodology. The use of big books and Piaget’s theory has proven to be beneficial in training students in reading. By applying Piaget’s theory, teachers can understand the cognitive abilities of students based on their age and developmental stage. It has been observed that students aged 7 years old understand reading faster than students aged 6 years old. Additionally, it was noticed that students who are over seven years old can fluently read and comprehend the text. By implementing Piaget’s theory, teachers can ensure more effective teaching and learning activities. Students are more engaged and enthusiastic about participating in big book lessons since it contains lots of large pictures and less writing.

This research explores the impact of Piaget’s Cognitive Learning Theory on the Learning of Indonesian language through the use of Bigbooks by students in the first-grade students of Madrasah Ibtidaiyah NU Tarbiyatuth Thullab. This study provides a useful reference for future research on the selection of appropriate teaching media and the implementation of cognitive learning theories to enhance students’ learning.
REFERENCES


