



Analysis of the development of symbolic thinking abilities of children aged 5-6 years at Immanuel Kindergarten, Samarinda

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ABSTRACT

The purpose of this study was to determine the development of symbolic thinking skills in children aged 5-6 years at Kindergarten Immanuel Samarinda. This research uses a qualitative descriptive research type. Data collection techniques used in research are observation, documentation and interviews. The data analysis used in this study is the qualitative data analysis belonging to Miles and Huberman. The process of playing while learning activities such as counting the number of friends before entering class, writing the date before starting the activity, singing while clapping

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1. INTRODUCTION

Early childhood is included in the golden age category, where brain development develops so rapidly, and at this age physical, cognitive, social language, emotional and artistic development will easily develop with stimulation from the environment. From the explanation above, it can be concluded that early childhood education is an effort that is planned and carried out systematically for children aged 0-8 years with the aim that children are able to develop their potential optimally (Darnis, 2018).

Cognitive development is the development of the ability or intelligence of the child's brain, cognitive ability related to knowledge, thinking ability and problem solving ability. Therefore, thinking is very important to be taught to early childhood because if a child's thinking is well developed, they will become intelligent successors to the nation. If a child's thinking power is not well developed, the child will become passive in dealing with something (Aslindah, 2018).

Cognitive abilities are needed by children in order to develop knowledge about what they see, hear, taste, touch or smell through their five senses. In early childhood education institutions such as kindergartens, preschool playgroups and other similar educational institutions, cognitive development is also known as the development of intellect or intellectual development (Sujiono, 2013).

Based on the Child Development Achievement Level Standard (STPPA) symbolic thinking in children aged 5-6 years includes mentioning numbers 1-10, using number symbols to count, matching numbers with number symbols, recognizing various kinds of vowel and consonant symbols, and

presenting various kinds of symbols. objects in the form of pictures or writing. Meanwhile, according to Iriani (2016) symbolic function is an individual's ability to use mental representations or use symbols such as words, numbers and pictures. In learning at Kindergarten Immanuel Samarinda, it is necessary to be assisted by a game so that children do not feel bored. Games in the form of honing children's creativity to use these games as teaching aids to form understanding of the ideas of learning mathematics, also develop the cognitive ability of symbolic thinking. The math games at Immanuel Kindergarten are block math games, puzzles counting the number of friends, and grouping pictures.

Based on the results of an interview with the Principal of Immanuel Kindergarten regarding cognitive abilities of symbolic thinking that have not been well developed or optimal, especially playing mathematics even though the teacher has introduced forms of play well, forms of playing mathematics are introduced by the teacher through objects in the surrounding environment such as blocks, puzzles, ice cream sticks and picture books.

2. RESEARCH METHODS

This research uses a qualitative descriptive research type. According to Denzin & Lincoln (in Moleong, 2013). "Qualitative research is research that uses a natural setting, with the intention of interpreting phenomena that occur and is carried out by involving various existing methods." In terms of this understanding, the authors still question the natural setting with the intention that the results can be used to interpret phenomena and that are used for qualitative research are various methods that are usually used, namely interviews, observations, utilization of documents. This research will be carried out at TK Immanuel Samarinda which is located at Jalan Limau. The time for this research will be carried out in September 2022 and January 2023. The subjects of this study were early childhood (5-6 years) in TK Immanuel Samarinda, totaling 3 children and informants from this study, namely the principal and class teacher of Kindergarten B Immanuel Samarinda. Research tools in the form of interview guidelines, observation and documentation. According to Sugiyono, (2012) in qualitative research, data collection is carried out in natural settings (natural conditions), primary data sources, and data collection techniques involve more participant observation, in-depth interviews and documentation. . Data collection techniques used in research are observation, documentation and interviews. The data analysis used in this study is the qualitative data analysis belonging to Miles and Huberman (in Sugiyono, 2012) suggests that activities are carried out interactively (mutually active) and take place continuously until complete. In this study, researchers used source triangulation and technical triangulation, namely using more than one informant and data collection techniques to obtain the same data. Researchers obtained data regarding the focus of the research by interviewing school principals, teachers/homeroom teachers at TK Immanuel Samarinda and parents of students.

3. RESULTS AND DISCUSSION

The interview was conducted on 10 October 2022-15 January 2023 with the informant, namely the principal as the homeroom teacher for group B of TK Immanuel Samarinda, parents and subjects. Data that was not in the interviews can be seen from the data directly observed to strengthen the results of the research, it is equipped with documentation with the appropriate archives. All data results from field research. From the results of interviews with informants and subjects, the results obtained were that the ability to think symbolically at Immanuel Kindergarten was the ability to say number symbols orally, such as counting fingers 1-10 or 1-20. The children's symbolic thinking skills are developed in the process of playing while learning activities such as counting the number of friends before entering class, writing dates before starting activities, sing while clapping, do the addition task and work on the textbook. The ability to think symbolically in number recognition at Kindergarten Immanuel Samarinda can be said to be well developed which can be seen from the results of interviews with informants about mathematical activities on children's symbolic thinking abilities and subjects who can answer questions well to questions given by researchers. Researchers use the observation model of the subject. Observations made by the researcher on the subject using the passive participation observation model (non-participant), that is, the researcher comes to the place of the activity of the

person being observed, However, the researcher was not involved in the activity. As a result of the observations made by the researcher, it can be concluded that the ability to say number symbols verbally is like counting fingers 1-10 or 1-20. The symbolic thinking abilities possessed by children in class B TK Immanuel Samarinda are developed in the process of playing while learning activities such as counting the number of friends before entering class, writing the date before starting activities, singing while clapping, doing addition assignments and working on textbooks can be said to be well developed. which seen from the subject under study can answer questions and work on practice questions given by the class teacher well, it can be concluded that there is a development of the symbolic thinking abilities of children aged 5-6 years in Kindergarten Immanuel Samarinda.

In qualitative research, data analysis is a useful stage for examining data that has been obtained from informants and subjects who have been selected during the research. In addition, it is also useful to explain and ensure the truth of research findings. This data analysis has been carried out since the beginning and simultaneously with the data collection process in the field. As for the research that has been done, the researcher obtained several findings that can describe the process of communication and patterns of social communication which can be seen from the results of interviews and observations where the process of communication and patterns of social communication occurs in Kindergarten Immanuel Samarinda.

TK Immanuel is fostered by YAPENDIK Jakarta center which has branches in Samarinda, one of which is located on JL. Lime Vorvo. Learning activities at TK Immanuel-Samarinda are held Monday to Friday 07.30-10.30 WITA. In the implementation process, Immanuel Samarinda Kindergarten refers to Permendikbud Number 146 concerning the 2014 PAUD Curriculum. Managers and teaching staff at Immanuel Kindergarten have an educational background of S1 Early Childhood Education and also other majors. Differences in educational background are not an obstacle for educators in carrying out their role in educating children. At Immanuel Kindergarten every child has a different age, characteristics, background, family, culture and lifestyle so educators make every effort to educate according to the stage of development and condition of the child . The number of children in group B of Immanuel Kindergarten in the 2021/2022 academic year is 6 (six) children consisting of 3 (three) boys and 3 (five) girls. The research results obtained by researchers regarding the development of symbolic thinking in children aged 5-6 years in Kindergarten Immanuel are to explain or present data that has been obtained during the research, namely those related to the development of symbolic thinking in children aged 5-6 years in Kindergarten Immanuel Samarinda. The interview was conducted on 10 October 2022-15 January 2023 with the informant, namely the principal as the homeroom teacher for group B of TK Immanuel Samarinda, parents and subjects. Researchers use the observation model of the subject.

Meanwhile, from the results of observations made by researchers, it can be concluded that the ability to say number symbols verbally is like counting fingers 1-10 or 1-20. The symbolic thinking abilities possessed by children in class B TK Immanuel Samarinda are developed in the process of playing while learning activities such as counting the number of friends before entering class, writing the date before starting activities, singing while clapping, doing addition assignments and working on textbooks can be said to be well developed. which seen from the subject under study can answer questions and work on practice questions given by the class teacher well.

First, mention the symbols of the numbers 1-10. At this stage the researcher saw that WLM, TIN and RS children were already able to arrange sequential number patterns 1-2-3-4-5 and 22-33-44, say and show number symbols 1-10 sequentially. This shows that the cognitive development of children in symbolic thinking has developed. Children are already able to connect their abilities to answer something that has been taught by teachers and parents because early childhood (AUD) is a child who has a very rapid stage of development and growth in absorbing all the information that children see and do (Sujiono, 2013). The WLM, TIN and RS children looked very enthusiastic and had a high sense of trust so that when the teacher asked questions the children could answer the teacher's questions. In terms of concentration and confidence, WLM, TIN and RS already have a well-developed category. The results of these observations are supported by the results of interviews with the principal and

parents of WLM children, TIN and RS. So it can be concluded that WLM, TIN and RS children can already name the symbol numbers 1 to 10.

Second, Using the number symbol to count. At this stage the researcher saw that WLM, TIN and RS children were able to use number symbols to count, in this activity there were 10 objects that children would use to count. Next, the teacher asks the children to count the number of objects in front of them, both in the form of blocks and in the form of balls. The results of observations in this activity, the researchers saw that WLM, TIN and RS children showed that they had good self-confidence and good concentration. WLM, TIN and RS children also want to do counting objects without having to be persuaded first by their teacher. When the child starts counting, it can be seen that the child is fluent in counting and is able to count correctly only on numbers 1 to 10. This shows that WLM, TIN and RS have the ability to use number symbols to calculate good ones. According to Runtukahu and Kandou (2014) In the symbolic stage, children manipulate symbols or symbols of certain objects. Students are able to use notation without depending on real objects. The symbolic stage is included in the learning stage regarding concepts. This requires the ability to formulate concepts packaged in the form of words or sentences. Concepts are learned so that children know an object but do not depend on real objects. Concepts are also very important to learn to become provisions in the life of children in education and in the next life. The results of these observations are supported by the results of interviews with the Principal and parents of WLM children. So it can be concluded that WLM children,

Third, Matching numbers with number symbols. At this stage the researcher saw that the WLM, TIN and RS children were already able to point to a number symbol and name the number that corresponded to that designated by the teacher. The WLM, TIN and RS children showed that they were able to say the numbers that matched the number symbols requested by the teacher. This showed that the WLM, TIN and RS children had the ability to say the numbers that match the number symbols well. According to Piaget, early childhood cognitive development explains how children can adapt, be able to give opinions about objects and events around them. Thinking in early childhood 2–7 years is called preoperational where children are already able to show an increase in symbolic thinking or representing experiences or the world through pictures and words (Desmita, 2015). The results of these observations are supported by the results of interviews with the Principal and parents of WLM children. So it can be concluded that WLM, TIN and RS children can already match numbers with number symbols.

Fourth, Recognize and arrange patterns. At this stage the researcher saw the teacher attach a piece of paper with the letter symbols written on it and stick the paper on the blackboard. Next, the teacher asks the children to arrange the pattern of the letters. Through play, children can develop their imagination and creativity. Therefore, playing that must be done by children and supported by the teacher is an essential component of development-oriented learning (Suryana, 2021). The WLM child shows that he has good concentration and is very enthusiastic in answering the questions given by the teacher. Meanwhile, TIN and RS were still confused and had to be guided by the teacher to compile patterns. The results of these observations are supported by the results of interviews with the Principal of the WLM School and Parents of Children, TIN and RS that the results of the children's learning process are different, there are children who already understand and those who don't. So it can be concluded that WLM children can already recognize and arrange patterns, while TIN and RS are still not able to recognize and arrange patterns.

Fifth, grouping or selecting objects based on type, function, color, shape of partner. At this stage, the teacher makes origami paper which later forms rectangles, circles, triangles and different colors and then the children group them according to different shapes and colors. Next, the teacher asks the children to group the appropriate shapes and colors. WLM and RS children showed that they had good concentration and were very enthusiastic in answering questions given by the teacher. While TIN still does not understand and must be assisted by the teacher. At the preoperational stage, children begin to speak words and show pictures to represent their world, through these words and pictures children show an increase in symbolic thinking, children are able to express reasons for issuing an idea, able to

express causal relationships even though the child's logic is not correct, children have egocentric characteristics, and show high curiosity (Desmita, 2015). The results of these observations are supported by the results of interviews with the principal and parents of WLM children, TIN and RS. So it can be concluded that WLM and RS children can. Grouping or selecting objects based on type, function, color, shape of partner. While TIN has not and must be guided by teachers and parents. Grouping or selecting objects based on type, function, color, shape of partner. While TIN has not and must be guided by teachers and parents. Grouping or selecting objects based on type, function, color, shape of partner. While TIN has not and must be guided by teachers and parents.

Sixth. Recognize and understand the concept of numbers. In this activity, the teacher adds, adds, subtracts, and calculates objects around the class. The WLM child shows that he has good concentration and is very enthusiastic in answering the questions given by the teacher. The results of these observations are supported by the results of interviews with the principal and parents of WLM children, TIN and RS. So it can be concluded that WLM and RS children can recognize and understand the concept of numbers. While TIN is still not and must be guided by teachers and parents.

Seventh, Get to know the concept of standard sizes that are informal or natural. At this stage, the teacher carries out the concept of standard sizes that are informal, such as measuring things such as tables, books, using body parts. According to Danarjati, et al, (2014) thinking is an idea and a mental process. Thinking allows one to present the world as a model and treat it effectively according to goals, plans, and desires. WLM and RS children showed that they had good concentration and were very enthusiastic in answering questions given by the teacher. Meanwhile, TIN children are still confused and need help from the teacher in carrying out the concept of measuring something. The results of these observations are supported by the results of interviews with the principal and parents of WLM children, TIN and RS. So it can be concluded that WLM and RS children can already recognize the concept of standard sizes that are informal or natural. While TIN is still not and must be guided by teachers and parents.

Eighth, Having the ability to estimate something. At this stage, the teacher invites the children in the class to estimate something such as estimating the contents of a friend's bag such as books, stationery, and supplies. According to Mutiah, (2015) the ability to think symbolically is part of cognitive development. The symbolic function is the first stage of pre-operational thought in early childhood. At this stage children develop the ability to mentally imagine objects that don't exist. This ability to think symbolically is called symbolic function, and it rapidly develops a child's mental world. WLM and RS children showed that they had good concentration and were very enthusiastic in answering questions given by the teacher. While TIN must be assisted by the teacher. The results of these observations are supported by the results of interviews with the Principal and parents of WLM children, hospitals and TIN. So it can be concluded that WLM children can already predict something. Meanwhile, TIN is still not and must be guided by teachers and parents.

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4. CONCLUSION

From the results of research at Samarinda Immanuel Kindergarten, it can be concluded that from the results of interviews conducted with the Principal as Class Teacher and Subject's Parents, the results showed that the ability to think symbolically in number recognition at Immanuel Samarinda Kindergarten was well developed, as seen from subjects who could answer questions correctly. good for the questions given by the researcher and the results of observations made on 3 subjects in class B TK Immanuel Samarinda developed well, seen from the subjects studied being able to answer questions and work on practice questions given by the class teacher well so that it is known that the development of children's symbolic thinking abilities 5-6 years at Kindergarten Immanuel Samarinda.

REFERENCES

- Arikunto, S. (2017). *Research procedure: a practical approach*. Jakarta: PT Rineka Cipta.
- Aslindah A. 2018. *Stimulus Media for Children to Be Active and Creative*. Parepare South Sulawesi: CV. Kaaffah Learning Center.
- Bodedarsyah, A., & Yulianti, R. (2019). Improving the symbolic thinking skills of group A early childhood (4-5 years old) with number dimple learning media. *Journal of CERIA (Smart, Energetic, Responsive, Innovative, Adaptive)*, 2(6), 354.
- Desmita. 2015. *Developmental Psychology*. Bandung: PT. Rodakarya Youth. Moleong. 2018. *Qualitative Research Methodology*. Bandung: PT. Rosdakarya youth. Rutukahu, & Selpius. 2014, *Learning Basic Mathematics for Children with Learning Difficulties*. Yogyakarta: Ar-Ruzz Media.
- Hardiyanti, L., Sasmita. & Sabdaningtyas, L. (2018). Media use and early childhood symbolic thinking skills. *Journal of Children's Education*, 4(1), 274-287. <https://doi.org/10.21107/pgpaustrunojoyo.v7i2.8878>. Jamaris, M. (2014). *Difficulty learning perspective, assessment, and handling for early childhood and school age*. Bogor: Ghalia Indonesia.
- Hidayat, & Maulidiyah, EM (2016). Improving Children's Cognitive Abilities Through Counting Objects Around. *Journal of Children's Education*, Volume 5, Issue 2, December 2014.
- Mutiah, D. (2010). *Psychology of early childhood play*. Jakarta: Kencana Prenada Media Group. Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 137. (2014). Regulation of the Minister of Education and Culture of the Republic of Indonesia Number 137. Jakarta: Ministry of National Education of the Republic of Indonesia. Piaget, J. (1950). *The psychology of intelligence*. France: Routledge.
- Nurbiana, D et al. (2015). *Language Development Methods*. Jakarta: The Open University.
- Nursyamsiah, H., et al. (2019). The ability to think symbolic of early childhood at the age of 5-6 years. *Cheerful Journal* 6(2).2.
- Pudjiati, SRR & Masykouri, A. (2011). *Sharpening intelligence at the age of 0-2 years*. Jakarta: Director General of PAUDNI. Seefeldt, C. & Wasik, BA (2008). *Early childhood education: preparing three, four and five year olds to enter school*. Jakarta: Index. Susanto, A. (2011). *Early childhood development in various aspects*. Jakarta: Kencana Perdana Media Group.
- Papalia, DE, Feldman, RD, & Martorell, G. (2014). *Experience human development 12th ed (dive into human development)*. (Translator Fitriana Wuri Herarti). Jakarta: Salemba Humanika.

- Sugiyono. 2012. *Quantitative, Qualitative and R&D Research Methods*, Bandung: PT Alfabeta.
- Susanto, A. (2017). *Early childhood education: concepts and theory*. Jakarta: PT. Script Earth.
- Vanbinst, K., Bergen, EV, Ghesquiere, P. & Smedt, BD (2020). Cross-domain associations of key cognitive correlates of early reading an early arithmetic in 5 years olds. *Early Childhood Research Quarterly*, (51), 144-152.
- Susanto, A. (2012). The process of habituation of disciplinary values in early childhood within the framework of forming national character. *Socioreligious Journal*, 15 (2).22-24.
- Syefriani Darnis. 2018. *Early Childhood Parenting*, First Edition, Cet. 1st, Yogyakarta.
- Trisnawati. (2014). Improving the ability to recognize letters through the letter card game method in group B1 Kindergarten ABA Kenggungan Wirobrajan Yogyakarta. *Teacher education for early childhood education*. Thesis. Yogyakarta: UNY.
- Vanderlan, AF (2011). Symbolic thought. in: goldstein s., naglieri ja In *Encyclopedia of Child Behavior and Development*. Springer, Boston, MA.: Elsevier. https://doi.org/10.1007 / 978-0-387-79061-9_2852.
- Yusuf, LN & S. (2012). *Psychology of child and adolescent development*. Bandung: Young Roesdakarya.
- Yoni, A. (2010). *Develop class action research*. Yogyakarta: Family.