ASSESSMENT OF EARLY CHILDREN'S DEVELOPMENT BASED ON CHILD BRAIN DEVELOPMENT (POA) AT PAUD TERPADU MUTIARA YOGYAKARTA

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Abstract

Many Early Childhood Education Institutions hope that their students can grow and develop optimally. The importance of assessment in aspects of child development is one of the things that must be considered, especially the assessment of early childhood development based on child brain development (POA). Because through POA-based assessment, children's developmental background can be traced. Assessment of this aspect of development becomes the basis for further development of the child. This research was conducted at PAUD Terpadu Mutiara. The use of POA activity feeds in Mutiara integrated ECCE provides information to educators and parents, so that parents can participate in providing assistance and supporting the achievement of optimal child growth and development. In this study, an assessment was carried out, especially motor aspects, which underlie the development of other aspects. Based on this research, research can understand how important the assessment is carried out so that the advantages and disadvantages of children are known in the process of growth and development. This study used qualitative research methods by collecting data through observation and interviews. Judging from the results of data analysis through observation and interviews as a whole, the implementation of the assessment in PAUD Terpadu Mutiara Yogyakarta showed that most children had no interference in carrying out activity feeds, meaning that they had been able to achieve developmental tasks well, reaching 68%. Some children who experience slight interference in doing bait activity, which is 17%. The number of children who experience enough disorders is 11%, and those who experience many disorders there are 4%. No child fails to do activity bait. The role of parents and teachers is very significant in supporting the achievement of developmental tasks. From the results of this study it can also be understood that child development assessment is needed in an institution to understand the level of child development.

Keywords: *child development; assessment; child brain development (POA); Early childhood*

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INTRODUCTION

Early childhood education is a very important level of education. Law No. 20 of 2003 concerning the National Education System in article 1 paragraph 14, states that "Early childhood education is an effort organized by the government in fostering early childhood through the provision of educational stimulation in assisting physical and spiritual growth and development so that children are ready to enter education. basis. (Mahardika et al., 2022). Education in the 0-6 years is very important as the initial foundation of a child's life. By providing the right educational stimulus, all aspects of child development will develop optimally (Noormawanti, 2020). Likewise, children's physical growth will be well controlled through Early Detection of growth and development which is carried out in a coherent manner through weighing, measuring height and head circumference and providing balanced nutrition to children. (Saepurohman et al., 2022).

The growth and development of children at the age of 0-6 years is in its golden age, where at this time almost all aspects of children's development develop rapidly and violently. The development of the child's brain experiences an extraordinary speed. Brain development even reaches 75 percent perfection of adults at the age of three years, and reaches 90 percent perfection at the age of 6 years (Laily & Sholichah, 2021). It's a very important development momentum that should not be ignored. Losing opportunities for child development at that age means losing important momentum that will never be repeated. So every effort needs to be made to be able to provide the best stimulation to children.

Every child is unique in his growth and development process. Erik Erickson's theory states that preschool children are active learners with active energy, enthusiasm, and imagination (Farihah, 2021). Each individual child will have a different character, through good stimulation, the child will develop optimally. The characteristics of children include: children have great curiosity, like to fantasize and imagine, have an egocentric attitude, have short concentration power, like to be social, easy to empathize and like to move/play (Wulandari et al., 2018). This character is what makes every child different and unique. Child characteristics are formed from genetic factors and environmental factors. The benefits of the child's characteristics can determine the child's learning style and child's intelligence. children's characteristics can be optimized through stimulation in the learning process (Widyaningrum, 2022).

Children in the process of growth and development are directed to develop all aspects of their personality. Aspects of child development include the development of aspects of religious and moral values, physical motor, cognitive, language, and social-emotional, in line with Permendikbud 157 of 2021 (Suyadi, 2016). It is further said that aspects of child development are stimulated through the process of learning play activities, making it easier for educators to develop their intelligence optimally. All aspects of development must be well stimulated, so that they can develop optimally. However, in children's learning activities that aim to optimize the development of their intelligence, educators must not ignore the nature of children, namely playing. Learning is held in pleasant situations. Children must be happy in learning.

In order to provide support to children so that they can grow and develop optimally, all things that become potential obstacles in their growth and development need to be identified and minimized. Assessment is needed to get feedback on improving the quality of children (Fitri et al., 2020). Assessments within the institution are used to measure the level of child development and as a measure of the success of learning activity programs.

Assessment is carried out periodically and continuously so that from the results of the assessment it can be concluded how far the level of child development is. Assessment in early childhood is carried out to find out whether the child's development is in accordance with what it should be or is experiencing developmental delays (Megaswarie, 2020). Assessments can also be carried out through early detection of child growth and development (DDTK) strategies (Ayu et al., 2021). In addition, the assessment can also be carried out with assessment steps based on the child's brain development (Afandi & Syahputra, 2018).

There are several forms of assessment based on children's brain development, namely motor development or motion material, articulation literacy and communication literacy (Diananda, 2021). Assessment is carried out by providing activity feedback to children. In the research at the PAUD Terpadu Mutiara, the assessment focused on providing activity feedback. The assessment was carried out on children aged 4-6 years. The purpose of Early Detection of Growth and Development (DDTK) with this POA analysis is to find an early profile of a child's neural maturity and brain function to see a child's learning readiness. If there is a potential for irregularities, solutions can be taken so that they can be resolved immediately (Yusuf & Helmi, 2022). In the end, children can achieve developmental tasks well.

PAUD Terpadu Mutiara conducts several assessments in assessing child development, so the teacher can assess whether the child has developed according to the standard level of child development achievement. The assessment was carried out using a questionnaire with POA analysis. Based on this assessment the teacher can evaluate and follow up if there are children who experience delays in their growth and development. In contrast to other studies that conducted assessments with the DDTK instrument. In this study the assessment was carried out using the POA (Children's Brain Development) approach including motor activity feedback. The results of this study can describe the profile of children's learning readiness. Based on the background above, this research is expected to provide more in-depth information to teachers and parents about the importance of assessment for children's development.

METHODS

The method used in this research is a qualitative research method. Qualitative research is basically an approach used in research to find out and describe real events from research objects so that it is easy to obtain concrete data and natural object conditions. (Purnama et al., 2021). This research conducted in PAUD Terpadu Mutiara Yogyakarta, located at Manggisan Baturetno Banguntapan Bantul Daerah Istimewa Yogyakarta. Election PAUD Terpadu Mutiara Yogyakarta as a place of research to determine the success of using a POA-based assessment program using activity bait. The subjects of this study were children representing the ages of 5-6 years, or children in group B, namely classes B1 and B2 with a total of 25 children.

Obtaining data and information in research, using observation methods or observations of children after being given activity bait. Data is collected by seeing, observing and analyzing the object of research. The interview method is that data is collected through asking questions and answers to children and educators. Feedback refers to children's activities in the form of: 1) standing tight, 2) standing with one leg up, 3) crawling, 4) touching ears, 5) passing the ball, 6) crossing fingers, 7) left support, 8) right support, 9) the top support and 10) the bottom support. Interviews in feedback refer to urgency: first, for teachers, to provide information on child development so that they

can modify learning; and secondly, for children, helping to find out strengths and weaknesses and providing feedback to fellow children to learn from each other.

The interview is conducted to further examine the results of activity feedback, especially for children who experience delays, such as family background and parenting patterns received. The literature method is used for collecting theories used as a theoretical foundation in discussing the problem. Documentation means that the researcher takes documentation in the form of photos and videos of children's activities in carrying out activity feedback. This research is conducted by giving activity feedback to children, then the children carry out activities according to the instructions given. Next, an analysis is carried out on the observation results. The analysis process is important in selecting relevant facts from a number of activities carried out by children. The analysis stage is the researcher's activity in analyzing or interpreting the assessment results in the form of various activities displayed by the child.

RESULTS AND DISCUSSION

Assessments in the form of activity feedback are given to children aged 5-6 years, or children in group B. During the implementation of this study several activities were planned so that the observations would run smoothly and the results from the observations were quite valid, including: 1) preparing research instruments for activity bait , 2) preparing the necessary places and equipment in activity bait, 3) preparing children to carry out the assessment process, namely class B (25 children), 4) giving directions and carrying out activity bait activities to children, 4) observing results and recording all indications that appears, 5) processing the results of observations of activity feeds carried out by children.

Research at the PAUD level is generally divided into several stages, namely: the first stage is planning activities, the second stage is carrying out or recording activity processes, processing activity results, archiving, and then reporting (Purnama et al., 2021). Based on the above concept, the research results can be described as follows: Research in PAUD Terpadu Mutiara Yogyakarta begins by determining the time of observation, choosing children based on their age, who are the objects of research and planning activities as bait for learning activities. Observations at the PAUD Terpadu Mutiara Yogyakarta in learning activities are carried out in the morning, starting at 08.00 – 09.00 WIB. The children were gathered in the hall, then given an explanation regarding the activity in the form of activity bait. There are ten movements given to children in this assessment process. The activities are 1) standing tight, 2) standing with one leg up, 3) crawling, 4) touching ears, 5) passing the ball, 6) crossing fingers, 7) left support, 8) right support, 9) up support and 10) pedestal. In more detail from each Movement can be described below.

The first motion material is standing meeting. This activity is carried out using two methods, namely open eyes and closed eyes. the first activity, the child is asked to stand with both feet together, arms at the side, look straight ahead, hold 8 seconds, and open eyes slowly. While the second activity is the child is asked to stand with both feet together, arms at the side, look straight ahead. After the child is ready, the child is asked to close his eyes. hold 8 seconds, and slowly open your eyes. Observations were made of the child's reaction when doing activity bait.

The results of this activity feed are scored according to the reactions shown. Score zero (0) if there is no interference. Score one (1) if the child swings a little, there is a little hand movement away from the body, a little change in expression or tongue movement.

Score two (2) children showed more hand swing and movement. Score three (3) if the child approaches losing balance so he needs to stretch his arms to maintain balance. Score four (4) if body movements show a tendency to fall. Each child receives activity feeds one step at a time. A relaxed and fun atmosphere is maintained, so that children do not feel pressured in carrying out the various activities instructed. The results of the assessment showed various developmental achievements. Although outwardly a group of children looks almost the same, the names actually show different results. When conducting a search through the activity feed in the form of 10 movements, it turns out that the general results are as follows.

The first movement is to stand with your feet together. There were 17 children who did not experience interference in carrying out the activity bait. The first movement can be done well, while smiling and cheerful. While there are three children who need a little movement to build balance after standing for a while, such as stretching their arms. Furthermore, there were three children who had balance problems so they had to spread their arms wider, and there were two children who almost fell.

Furthermore, the material for the second movement is standing by lifting one leg. The child is directed to stand with feet shoulder-width apart, arms at the side, then the child lifts one leg to form a 90° angle to the back. Next note how many seconds the child can survive. The criteria are 2 seconds for 3 year olds, 4-8 seconds for 4 year olds, more than 8 seconds for 5 year olds and more than 20 seconds for 6 year olds. The results of the assessment showed that 18 children were able to stand for more than 20 seconds, 5 children were able to 15 seconds, 1 child was able to 13 seconds and 1 child swayed and lowered his feet before 12 seconds.

The third activity bait is crawling. The child is asked to crawl forward to a certain limit (minimum 3 meters). Then the child crawls backwards back to the starting position. Observations made are paying attention to the stages of movement carried out by the child, namely 1) Advance the arms and legs in a certain position, homologous or homolateral. 2) If it is contralateral, it is necessary to pay attention to the tempo of the movements of the upper and lower body in synchronization or not. 3) The child rotates the position of one of the palms or both palms outward or inward 4) The child crawls in a position resting on the fingers. 5) The child crawls with his hands clenched. 6) One or both soles of the feet do not touch the floor, resting on the knees. The results of observations on children's crawling activities showed results, 16 children had no disturbance, 5 children experienced 1 disorder, 3 children experienced two disorders, and one child experienced 4 disorders.

Next, touch the ear. The child is asked to stand with two feet together, one hand raised in a circle over the head to reach the ear on the other side. Then change hands. Child gets a score of zero (0) if there is no interference, score 1 if there is slight difficulty in one or both arms. Score 2 if the child has difficulty, score 3 if the child loses balance, and score 4 if the task cannot be completed. The results of observations of the activity bait given showed that 17 children had no disturbances, 5 children had slight disturbances, 2 children had some balance disorders and 1 child had difficulty, although they could still do it.

The fifth active bait is a passing ball. The child is directed to take a standing position. The child presses the legs together with the arms at the side of the body. Then the child is asked to bend the elbows 90 degrees so that the palms face up in front of the body, fingers open. Place a ball in one palm. Instruct to move the ball from the first arm to the opponent's arm without changing the position of the receiving arm. This activity is

repeated 4 times. The child is noticed if there is difficulty with the arm crossing the midline of the body and the tendency for the receiving arm to move to greet the ball. The score achieved is a score of 0 if there is no interference, a score of 1 if there is a little difficulty, a score of 2 if there is difficulty when one arm moves, a score of 3, if the balance fails to occur, and a score of 4 if the child cannot carry out the directed activity, the child lost balance and fell. The results of the observations showed that 17 children did not experience interference, 5 children showed slight difficulties, and 3 children experienced difficulties. No child has failed.

The 6th movement is a cross of fingers. The child is directed to stand straight and feet together. Bend the elbow of one arm to 45 degrees in front of the body with the position of the upper arm of the elbow still attached to the side of the body. Palms facing toward the face. The arm on the other side of the body remains relaxed at the side. Bend your thumb and forefinger so that their fingertips meet in a circle. Unscrew the circle 5 times. Switch between thumb and middle finger. Sequentially do it up to the thumb with the little finger. Rest your arm, when you're done replace it with the other arm. When observing, it is necessary to pay attention to whether the finger of the hand that is not working also moves according to the movement of the working finger, whether the child is able to do it according to the order of the fingers, whether the child has difficulty, and whether the thumb is weak to touch other fingers. The results of the observations showed that 18 children had no difficulties, 3 children had a little difficulty, 3 children had some difficulties, and 1 child had many difficulties but could still do it.

The seventh activity feed is the left fulcrum. The child is instructed so that the hands and knees are on the floor or all four points of the kneeling position. Next, the child is instructed to slowly rotate the head to the left, keeping the back of the head in line with the spine and ensuring that the rotation of the head remains parallel to the shoulder line. Pause for 5-10 seconds. Observation results, score 0 if there is no interference, score 1 if there is a slight disturbance in the form of bending of the arm, score 2 if there is movement of the right shoulder or hip, score 3 if the right arm bends without involvement of the right shoulder or hip, score 4 if the right arm fell. The results of the observations showed that 18 children had no disturbance, 3 children experienced a little interference and 3 children had more interference, and 1 child could barely do.

The eighth movement is the right fulcrum. The child is instructed so that the hands and knees are on the floor or the four points of the kneeling position. Next, the child is gently instructed to turn his head to the right, keeping the back of his head in line with the spine and ensuring that the rotation of the head remains parallel to the shoulder line. Pause for 5-10 seconds. The outcome criterion is a score of 0 if there is no disturbance, a score of 1 if there is slight bending or movement of the arm or left shoulder or hip. Score 2 if there is bending or movement in the left shoulder or hip. Score 3 if the left arm bends with or without the shoulder, and score 4 if the left arm drops due to head rotation. The observation results showed that 16 children had no disturbances, could carry out activity bait well. 5 children have slight disturbances and 4 children have disturbances in the coordination of their movements.

The 9th movement is the fulcrum. The child is given instructions so that the child's hands and knees are directed to a position like a table. Furthermore, the child slowly lifts his head up, as if looking at the ceiling with his arms straight. This activity is held for 5 seconds. The outcome criteria are a score of 0 if there is no disturbance, a score of 1 if one or both arms vibrate or there is slight movement of the pelvis, a score of 2 if there is a bend in the elbow, hip or back. Score 3 if the child's arm bends, and score 4 if the

forearm reaches the elbow on the anvil or the movement of the back to the pelvis towards the ankle. The observation results showed that 18 children could carry out without hindrance, 3 children saw slight movement in the pelvis, 2 children saw their arms bend, and 2 more children needed a lot of additional movement to get balance.

The 10th movement is the bottom fulcrum. The child is given instructions so that the child's hands and knees form a table-like shape. Next, the child is directed slowly to lower his head down, as if looking at his toes with his arms straight. Hold this activity for 5 seconds. The outcome criteria are a score of 0 if there is no disturbance, a score of 1 if one or both arms vibrate or slight movement in the pelvis, a score of 2 if there is a bend in the elbow, hip or back. Score 3 if the child's arm bends, and score 4 if the forearm reaches the elbow on the anvil or back movement of the pelvis towards the ankle. The results of the observation showed that 17 children could carry out the bait activity without hindrance, 7 children saw their arms shake slightly, and 1 child saw their arms bend. In general, the child has demonstrated the ability to follow the activity feed well. In detail can be described in the following table.

Table of Activity Feed Results in Children
at PAUD Terpadu Mutiara Yogyakarta

No	Activity Feed	Score					Sum
		0	1	2	3	4	
1	Stand tight	17	3	3	2	0	25
2	Stand up on one leg	18	5	1	1	0	25
3	Crawl	16	5	3	1	0	25
4	Touch the ear	17	5	2	1	0	25
5	The ball passed	17	5	3	0	0	25
6	Cross fingers	18	3	3	1	0	25
7	Left fulcrum	18	3	3	1	0	25
8	Right fulcrum	16	5	4	0	0	25
9	Top pedestal	18	3	2	2	0	25
10	Bottom fulcrum	17	7	1	0	0	25
	Sum	172	44	29	9	0	250
	Percentage	68 %	17%	11%	4%	0	

Information:
0 : No interruptions in performing activity feeds
1 : There is a slight interruption in doing the activity feed
2. : There is enough interference in performing the activity feed
3 : There are many distractions in doing activity feeds
4 : failed to perform Action in performing activity feed

The graph provides an idea of how the child's developmental achievement level in following the activity feed. This was done to see the level of maturity of brain work towards readiness to learn, which in the early age group must pass the stage of motor control maturity. The profile of a child who can perform activity feeds well reflects the maturity of brain work functions (Astuti, 2015). This will be seen in the child's ability to perform other tasks in various learning play activities. This also shows the readiness of children's learning in entering higher education.

Meanwhile, children who experience obstacles in carrying out activity feeds reflect their profile that the level of maturity of the child's brain work is still experiencing obstacles (Ruslianti et al., 2023). The obstacles experienced reflect the level of maturity of brain work functions that exist in him. In this case, children still need stimulation and opportunities to experience firsthand a variety of meaningful movement activities (Kurniah et al., 2021). Thus, through the assessment carried out, the profile of children's learning readiness can be known. Children who experience obstacles are further explored through in-depth interviews with teachers and parents, to find out the background of parenting, as well as daily activities carried out. Through this activity feed, the obstacles faced by children can be immediately found a way out.

PAUD Terpadu Mutiara Yogyakarta in general has stimulated children related to various aspects of development, including physical motor development. In order to find out the profile of children's readiness to learn, the child's movement ability needs to be seen. Through this study there are 10 movements that have been tested on children, and children have carried out activities as directed. Based on the results of observations that have been made, most children have been able to follow the movements given. Some children do activities with few additional movements and some still need a lot of additional movements to get balance or skills tested. Thus there are still some children who still need guidance and stimulation. Children's movement ability cannot be forced, but it needs to be continuously stimulated and given the opportunity to process so that they can go through it well (Kesuma &; Istiqomah, 2019).

The activity feed results table described above is the result of measuring activity feed scores in children at PAUD Terpadu Mutiara Yogyakarta. There are 10 types of activity feeds measured, namely: Stand tight, Stand up one leg, crawl, Touch the ears, Cross ball, Cross fingers, Left fulcrum, Right fulcrum, Top fulcrum, and Lower fulcrum. The activity feed scores were divided into five categories, namely 0, 1, 2, 3, and 4. A score of 0 indicates that the child is not impaired in performing the activity feed, while a score of 4 indicates that the child failed to perform the action in performing the activity feed. Scores 1, 2, and 3 indicate a greater level of distraction in performing activity feeds.

In the table, there is a column that shows the number of children measured for each type of activity feed, as well as columns for the number of scores 0, 1, 2, 3, and 4 obtained from that measurement. From the table, it can be seen that the most activity feed with a score of 0 is Standing up one leg, followed by the right Pedestal and the lower Fulcrum. While the most activity feed with a score of 4 is Standing tight. In addition, the most performed activity feeds with scores of 1, 2, and 3 were crawling, Touch ears, Cross fingers, and Top fulcrum. This graph can be used to evaluate the ability of children's activity feeds, as well as help identify the type of difficulty the child has in the learning process.

Teacher stimulation to children is a key word in achieving abilities(Agustina, 2020) Children in PAUD Terpadu Mutiara show diverse abilities, although most have shown achievement according to their age stage. There are still some children who experience obstacles in carrying out motion instructions. These children further need more attention and stimulation from teachers and parents so that children are able to achieve developmental tasks according to their age stages. It is hoped that when the next activity feed is carried out, children who experience obstacles will be able to catch up with the delays they experience.

Based on the results of interviews with teachers, children who have good abilities cannot be separated from the opportunities and motivation given by their teachers.

Teachers provide a variety of play activities that make children do a lot of fun activities. Children who get stimulation, support and fulfillment of adequate media means of play activities have a greater opportunity to develop their potential (Qudsyi, 2010) Children's self-actualization can be done more optimally.

Parental support is also something very important. The results showed that children's growth and development were better when parents provided positive attention and support (Rahma &; Fatonah, 2021). Children are given the opportunity to do various positive activities, not easily blamed or cornered (Vinayastri, 2015). The environment provides support and guidance in activities and work. Parents provide learning and play facilities, until children are able to self-actualize. Parents also provide assistance when children experience obstacles and challenges. This is invaluable capital that makes children grow and develop optimally. The results of the interview showed that children who have good movement skills and no interference generally come from families that apply good parenting and give adequate attention to children. While children who experience obstacles in the movement of activity feed turned out in this study to come from families that are not harmonious, and children do not get adequate attention and play opportunities.

The child's profile shows no interference in performing the activity feed, meaning that it has been able to achieve developmental tasks well, achieve. Furthermore, there are some children who experience slight interference in doing bait activities, which is 17%. The number of children who experience some disturbances in carrying out activities is 11%, and those who experience many disorders there are 4%. No child fails to do activity bait. Overall child achievement in bait activity was 68%. This shows that most children already have a self-profile according to the stages of development that should be achieved. The achievements in this study are in line with the objectives of effective child brain development feeds in the Merdeka Belajar Curriculum, namely: first, the feed must have clear goals and objectives, in this case in line with child brain development (POA); and second, enabling children to know and consciously understand every learning activity that children receive at school (PAUD, 2021).

The role of parents and teachers is very significant in supporting the achievement of developmental tasks. From the results of this study it can also be understood that child development assessment is needed in an institution to understand the level of child development and overcome if there are obstacles experienced by children.

CONCLUSIONS

The results of data analysis through observation of 10 activity bait activities, as well as interviews regarding parenting patterns and children's daily activities, it can be concluded that overall the implementation of the assessment at the PAUD Terpadu Mutiara Yogyakarta has been carried out properly so that it can detect the level of developmental achievement child.

This is evidenced by the 25 children who got the opportunity to carry out the activity bait. Most children have developed according to the stages of their development well. There are some who still need stimulation on an ongoing basis. Teachers at school can provide stimulation with a variety of play activities, either through indoor or outdoor activities. The results of the interviews show that there is a significant relationship between parenting style and the provision of opportunities to play with the child's profile as reflected in the implementation of activity bait. Good parental attention and adequate

playing opportunities provide greater opportunities for children to develop more optimally.

Several suggestions can be made, first for children who have not achieved developmental tasks properly, it is necessary to get more diverse attention and stimulation from teachers and parents, so that children can catch up on development.

Children who have achieved developmental developmental tasks well continue to carry out meaningful play activities, and are directed to collaborate with children who experience attachment, so as to motivate their friends. Furthermore, it is hoped that the management of the PAUD Terpadu Mutiara Yogyakarta will provide more opportunities for children to explore and play freely. Play facilities and tools need to be added and updated. Cooperation with parents needs to be improved, so that parental support will expedite the process of learning and playing activities.

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