

# Comparison of Early Childhood Development Rates in Two Different Types of Kinder Garten

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**Abstract-- Development is the increase in the ability and structure/ function of the body. The purpose of this study was to determine the differences in the level of development of children who were educated at the Indonesian natural school in Palembang and at the school of the 01 TK Pembina. This research was conducted by using quantitative research methods by using a comparative study research design that is a study that compares existing phenomena to look for factors that cause a particular process to arise. The sampling method in this study used total was 30 samples consisting of 15 natural school samples and 15 conventional school samples. The analysis used is a test Two Independent Sample Test with test type Mann Whitney U test. The results of this study indicate that there are no significant differences in the level of development of children in natural schools and conventional schools indicated by the value of p Value (0.148) >  $\alpha$  (0.05) so that there is no significant difference in the level of child development in Indonesian Natural School Palembang with Children in School TK Negeri 01 Pembina Palembang in 2019. For further research it is recommended to choose other conventional schools that have different criteria from conventional schools that have been conducted so that the results obtained will be more maximal.**

**Keywords:** *Development, early age education, natural school.*

## I. INTRODUCTION

Development is the increased ability and structure / function of the body that is more complex in a regular pattern, and can be predicted and predicted as a result

of the differentiation process of cells, body tissues, organs, and organized systems [1]. Development is the result of the interaction of the maturity of the central nervous system with the organs it affects so that this development plays an important role in human life.

Children who are in their infancy and development have a great sense of curiosity about their surroundings. This is indicated by the number of questions they asked. This curiosity provides an opportunity for children to learn to know something [2]. Children's interactions with their environment, for example with friends of the same age or teacher, will make children learn to develop their social and emotional aspects. Interaction with peers will provide experiences in socializing and communicating, such as playing together, willing to share, willing to give in and so on. Meanwhile, the child's interaction with the natural environment will provide a relaxed and relaxed feeling. This condition is what children really need in the learning and playing process [3].

Parents have the hope that their children will have knowledge (intellectual), skills and good behavioral abilities that will be useful for solving problems in daily life, starting with having cognitive knowledge (reading and writing), and pragmatic existential knowledge [4]. This knowledge can be useful for living the child's life so that the child can survive, and the child is able to develop their talents and interests, so that children are useful not only for the family but for the nation and state [5].

Early childhood education (PAUD) is a level of education prior to basic education, which is a coaching effort aimed at children from birth to six years of age. This is carried out by providing educational stimuli to assist physical and spiritual growth and development so that children have readiness to enter further education, which is held on formal, non-formal, and unconventional channels [6],[7].

PAUD has the main function of developing all aspects of child development, including cognitive development, language, physical (gross and fine motor skills), social, emotional. Good child development conditions will affect the quality of humans (children) in the future. Research on child development and educational outcomes shows the long-term and short-term benefits of PAUD [8]. The short-term benefits of PAUD are an increase in the child's intelligence aspect, while the long-term benefit is an increase in the school completion rate. The main goal of PAUD is to facilitate the growth and development of children as early as possible in the physical, psychological and social aspects as a whole. Learning in PAUD is based on a number of principles, namely: (1) based on child development; (2) learning while playing; (3) implemented in a conducive and innovative environment; (4) implemented with a thematic and integrated approach; and (5) directed at developing the potential of intelligence as a whole and integrated [9].

One form of the education system that was initiated to change the current state of the Indonesian education world, and which began to be developed in Indonesia, is natural school education. This natural school education system is different from conventional schools in general. Sekolah Alam is a school with a universe-based educational concept. In learning the natural school concept used is learning while playing with the hope that the focus orientation is to develop the strengths of children with non-standard search methods and is relatively enjoyable for children to accept in certain forms of play. The learning methodology used tends to lead to the achievement of good innovative logic in the form of action learning (real practice).

There are differences in learning methods at natural schools and conventional schools, so there may be differences in development between children who undergo education in natural schools and conventional schools. Therefore, researchers are interested in researching the differences in the level of development of children who undergo education in natural schools and conventional schools in 2019.

## II. METHOD

This research was conducted using quantitative research methods using a comparative study design, which is a study that compares existing phenomena to look for factors that cause a certain process to emerge [10]. This method is by measuring the development of children in natural school X and children in conventional school X using the Denver Developmental Screening Test II (DDST II) sheet and seeing whether there are differences in the development of children in conventional schools and natural schools.

The sampling method in this study used a total sampling technique in a natural school, because in a natural school the number of students was only 18 children so that all children were used as samples. And a probability sampling technique with a random sampling approach in conventional schools, namely random sampling of the population to be obtained, a representative sample. Sampling was randomized, regardless of the existing strata in the population members. Sampling can be done by way of the lottery [10]. The research sample used in this study were children in X nature school with children in conventional school X.

The measuring instrument or research instrument used in this study is the Developmental Measurement Sheet, namely the Denver Developmental Screening Test II (DDST II) Sheet. Then measure the growth rate and development of children using the Denver Developmental Screening Test (DDST) sheet. Bivariate analysis was carried out on two variables which were thought to be related or correlated. The statistical test conducted is the two-mean difference test which aims to determine the difference between the two groups of independent data. The bivariate analysis was carried out to determine the differences in the level of development of children in X nature school and the development of children in conventional school X.

## III. RESULT

### A. Univariate Analysis

#### 1. Personal social

##### a) The Indonesian Nature School in Palembang

The development of the personal social aspects of respondents in natural schools can be seen in table 5.1

Table 1 Frequency Distribution of Social Personal Development Aspects In The Nature Indonesia School of Palembang.

Personal social	Frequency	Percentage (%)
There is no delay	15	100
There is delay	0	0
Total	15	100

b) TK Negeri 01 Pembina

The developments in the personal social aspects of the TK Negeri 01 Pembina respondents can be seen in table 2

Table 2 Frequency Distribution of Social Personal Development In TK Negeri 01 Pembina

Personal social	Frequency	Percentage (%)
There is no delay	15	100
There is delay	0	0
Total	15	100

Based on the table above, it is found that there are no children who experience tardiness from the personal social aspect, both the children at the Palembang Indonesian Nature School and the children at TK Negeri 01 Pembina Palembang.

2. **Gross motor**

a) The Indonesian Nature School in Palembang  
The development on the gross motoric aspects of respondents at natural school can be seen from table 3

Table 3 Distribution of The Frequency of Gross Motor Skills Development In Indonesian Nature School In Palembang

Gross motor	Frequency	Percentage (%)
There is no delay	15	100
There is delay	0	0
Total	15	100

b) TK Negeri 01 Pembina

The development in the gross motoric aspects of the TK Negeri 01 Pembina respondent can be seen in table 4

Table 4. Frequency Distribution of Gross Motor Skills Development In TK Negeri 01 Pembina

Gross motor	Frequency	Percentage (%)
There is no delay	13	86,7
There is delay	2	13,3
Total	15	100

Based on table 3 and table 4 it was found that the development of children from the gross motoric aspect was not delayed in children at the Palembang natural school in Indonesia, while for children in TK Negeri 01 Pembina Palembang there were 2 children (13.3%)

who experienced delays in gross motor aspects.

3. **Fine motor**

a) The Indonesian Nature School in Palembang  
The developments in the fine motoric aspects of respondents in natural schools can be seen in table 5

Table 5. Frequency Distribution of Fine Motor Skills Development At Sekolah Alam Indonesia Palembang

Fine Motor	Frequency	Percentage (%)
There is no delay	15	100
There is delay	0	0
Total	15	101

b) TK Negeri 01 Pembina

The developments in the fine motoric aspects of the TK Negeri 01 Pembina respondents can be seen in table 6

Table 6 Frequency Distribution of fine motor development in TK Negeri 01 Pembina

Fine Motor	Frequency	Percentage (%)
There is no delay	15	100
There is delay	0	0
Total	15	100

Based on the table above, it is found that there are no children who experience delays from the fine motor aspect, either children at the Palembang Indonesian natural school as well as the children at TK Negeri 01 Pembina Palembang.

4. **Language**

a) The Indonesian Nature School in Palembang  
The development of the language aspect of respondents in natural schools can be seen in table 7

Table 7 Frequency Distribution of language development slips in the Indonesian Natural School in Palembang

Language	Frequency	Percentage (%)
There is no delay	14	93,3
There is delay	1	6,7
Total	15	100

b) TK Negeri 01 Pembina

The development of the language aspect of respondents in TK Negeri 01 Pembina can be seen in table 8

Table 8 Frequency Distribution of language development slips in i TK Negeri 01 Pembina

Language	Frequency	Percentage (%)
There is no delay	13	86,7
There is delay	2	13,3
Total	15	100

Based on table 5.7 and table 5.8, it is found that the

development of children from the aspect of language in the Indonesian natural school in Palembang, there is 1 child (6.7%) who experiences delays, while for children in TK Negeri 01 Pembina Palembang there are 2 children (13.3%) experiencing delays on gross motor aspects.

**5. Learning Methods**

The learning methods used by respondents in the two research locations can be seen in table 9

Table 9 Frequency Distribution Based on Respondents' Learning Methods in Natural Schools and TK Negeri 01 Pembina

Learning Methods	Frequency	Percentage (%)
KTSP	15	50,0 %
Spider Web	15	50,0 %
Total	30	100 %

Source: Primary data, year 2019

Based on the table above, it is found that the KTSP learning method is used by 15 respondents (50%) and the Spider Web learning method is used by 15 respondents (50%).

**6. Level of Development**

The level of development of the respondents can be seen in tables 10 and 11

Table 10 Frequency Distribution Based on Respondents' Developmental Level at the Indonesian Natural School in Palembang

Level Of Development	Frequency	Percentage (%)
There is no delay	14	93,3
There is delay	1	6,7
Total	15	100

Table 11 Frequency Distribution Based on Respondent Development Levels in TK Negeri

Level Of Development	Frequency	Percentage (%)
There is no delay	11	73,3
There is delay	4	26,7
Total	15	100

Based on table 10 and table 11 the results of the data frequency show that in children at the Palembang Indonesian natural school with the Spider Web learning method, there were 1 respondent who experienced delays at the level of development (suspect) while for children at TK Negeri 01 Pembina with the KTSP learning method, 4 children were found. experiencing a delay at the level of development (suspect) based on an examination using the Denver Developmental Screening Test II (DDST II) sheet.

**B. Bivariate Analysis**

Bivariate analysis was used to determine the research hypothesis, namely whether there were differences in the level of development of children in X natural school and children in TK Negeri 01 Pembina. Before the analysis, the researcher conducted the normality test with the Shapiro- Wilk test because the number of samples for each group was <50 samples[10]. The results of the data normality test for the level of child development based on the learning method were 0,000 so that the data were not normally distributed. So a non- parametric statistical test was performed using Two Independent samples tests with the Mann-Whitney U type test.

Table 12 Differences in the Level of Development of Respondents at the Palembang Natural School Indonesia and TK Negeri 01 Pembina Palembang

Level of Development	Mean	Median (Min-Max)	p Value
KTSP	1.27	1,00 (1-2)	0,148
Spider Web	1.07	1,00 (1-2)	

Based on table 12 the results of data analysis show that in children at Palembang natural school in Indonesia with the Spider Web learning method, there were 1 respondent who experienced delays at the level of development (suspect), while in children at TK Negeri 01 Palembang with the KTSP learning method, 4 children experienced delays in the level of development (suspect) based on the examination using the Denver Developmental Screening Test II (DDST II) sheet. This shows that there is no significant difference in the number of children who experience problems with the level of child development. So it can be concluded that there is no significant difference between children undergoing early childhood education at X nature school and children undergoing early childhood education in conventional Palembang schools in 2019.

The results of statistical tests showed that the results of the Mann-Whitney U test obtained p value (0.148) >  $\alpha$  (0.05), thus it was concluded that  $H_a$  was rejected. This means that there is no significant difference in the level of development of children at Alam X School and Children in Conventional School X Palembang in 2019.

**IV. DISCUSSION**

Based on the results of the research, it shows that the learning method used in the Palembang Indonesian natural school is the Spider Web learning method and

the learning method used in the TK Negeri 01 Pembina school is the KTSP learning method. The Spider Web learning method is a learning method that links lessons to real life and at the same time can integrate the relationships between the lessons they receive. The KTSP learning method (Education Unit Level Curriculum) is an educational operational curriculum compiled by and implemented in each educational unit in Indonesia. KTSP is a form of educational reform that provides autonomy to schools and educational units to develop curricula according to their respective potentials, demands and needs.

Based on the results of the study, it shows that in children in Palembang natural school in Indonesia with the Spider Web learning method, there were 1 respondent who experienced delays at the level of development (suspect), while in children at TK Negeri 01 Pembina with the KTSP learning method, 4 children experienced problems at the level of development (suspect) based on an examination using the Denver Developmental Screening Test II (DDST II) sheet.

At the stage of child development there are several influencing factors in the form of internal and external factors. Internal factors that influence include genetics (differences in race, ethnicity, or nationality), family, age, sex, chromosomal abnormalities, and hormonal disorders. External factors or environmental factors that influence can be grouped into three, namely prenatal, birth, and postnatal[1].

The results of statistical tests showed that the results of the Mann-Whitney U test obtained p value  $(0.148) > \alpha (0.05)$ , thus it was concluded that  $H_a$  was rejected. This means that there is no significant difference in the level of development of children at Palembang Alam Indonesia School and at TK Negeri 01 Pembina Palembang in 2019. The results of data analysis show that in children at Palembang's Indonesian natural school with the Spider Web learning method, 1 respondent experienced delays at the level of development. Meanwhile, the children at TK Negeri 01 using the KTSP learning method found 4 children who experienced delays at the developmental level based on examinations using the Denver Developmental Screening Test II (DDST II) sheet. This shows that there is no significant difference in the number of children who experience problems with the level of child development.

Namely the Comparative Study of the Developmental Level of Children aged 3-5 Years Based on Natural and Conventional School Learning Methods in Tkit Mekar

Insani and Tkit Nurul Islam Yogyakarta. The results show that: 1. The level of development of children aged 3-5 years based on the natural and conventional school learning methods in the Yogyakarta natural school, the most research results are in the normal category as many as 15 children (75%). While at least at the level of development of children in the untestable category, there were 0 children (0%). While conventional schools obtained the most research results in the suspect category as many as 10 children (50%). Meanwhile, at least 1 child (5%) was in the untestable category. 2. There is a significant difference in the Mann-Whitney U value of 137.5 and a significance value of 0.048. This means that there is a significance result obtained of  $0.048 < 0.05$ , so it can be concluded that the differences in the level of development of children aged 3-5 years based on learning methods in conventional schools and in Yogyakarta natural schools.

Based on the results of this study, it was found that there was no significant difference between children who underwent early childhood education at Palembang natural school in Indonesia and children who underwent early childhood education at TK Negeri 01 Pembina. Each child will pass through these stages flexibly and continuously. For example, the achievement of the ability to develop and develop in infancy is not always achieved exactly at the age of one year, but can be achieved earlier or more than one year. Each stage is characterized by its anatomy, physiology, biochemistry and character. The achievement of an ability for each child is different, but there is a certain age benchmark for achieving this ability which is often referred to as milestones [11], [5].

Based on the results of observations by researchers during research activities, there are several findings that the researchers found, including about children's emotions. Students at the Palembang Indonesian Nature School have the ability to organize themselves [12]. As seen when the research will be carried out, students determine the order for the research to be carried out and students comply with the order in an orderly manner. Students at TK Negeri 01 Pembina follow the research in an orderly manner, because when the researchers did the research the students were not focused on research activities and had fun playing with their friends. Other findings that the researchers found were regarding the work of the respondent's

parents. The level of employment or social status of the respondent's parents at the Palembang natural school in Indonesia and at TK Negeri 01 Pembina are equal so this can also affect the equality of the level of development of the children who are the respondents. [13], [3] One aspect of child development is social development, which is the achievement of maturity in social relationships. Social development of children is very much influenced by the process of treatment or guidance from parents towards children in various aspects of social life, or the norms of social life as well as encouraging and giving examples to their children how to apply these norms in everyday life.

## V. CONCLUSION

The conclusion of this study is the learning method used in the Palembang Indonesian natural school is the Spider Web learning method. The learning method used in the TK Negeri 01 Pembina school is the KTSP learning method. Children at the Palembang Indonesian Nature School with the Spider Web learning method found 1 respondent who experienced delays at the level of development (suspect) based on an examination using the Denver Developmental Screening Test II (DDST II) sheet. Children in TK Negeri 01 Pembina with the KTSP learning method found 4 children who experienced delays at the developmental level (suspect) based on examinations using the Denver Developmental Screening Test II (DDST II) sheet. The difference in the level of development of children in the Palembang Indonesian Natural School and in the TK Negeri 01 Pembina school was obtained p value  $(0.148) > \alpha (0.05)$  so that there was no significant difference in the level of development of children in Palembang Indonesian Natural Schools with children in State Kindergarten Schools. 01 Trainer of Palembang in 2019.

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