

The Influence of *Superior Integrated Model* Learning Strategy and Content toward the Cognitive Skills of Kindergarten Students in Prembun Wonosobo Regency

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ABSTRACT

Early Childhood is the golden age in which stimuli is really important for the children's growth. Cognitive skill is one of the children's development aspects needs to be well stimulated during the childhood. In this context, however, researchers found that there was a problem with the cognitive skill development of children aged 5-6. Some students do not know the initial numbers and counting. Even worse, there was a lack of learning strategy and learning content to enhance the children's cognitive skill. Intending to know the influence of *Superior Integrated Model* learning strategy and content toward the cognitive skills of Kindergarten students in Prembun Wonosobo Regency, we conducted an experimental research, which employed 66 students as the subjects. The performance test was conducted to collect the data, which is then analyzed by using *one sample t test*. The result showed that *Superior Integrated Model* significantly influence the students' cognitive skills. The learning strategy and learning content of *Superior Integrated Model* is effective to enhance the early-aged students' cognitive skill.

Keyword: Superior Integrated Model, Cognitive skill

Introduction

Cognitive skill is defined as the ability to think, assess, and comprehend information to solve problems and learn (Barham, Macours, & Maluccio, 2013; Fardian, 2020; MAL-ED Network Investigator, 2018). It is a part of children's growth that needs to be stimulated. Cognitive growth depends on the environment and the opportunities provided by the surroundings, especially home environment (Luber & Lisanby, 2014; Obradović, Yousafzai, Finch, & Rasheed, 2016; Cabrera, Jeong Moon, Fagan, West, & Aldoney, 2020). Cognitive process consists of: perception, memory, mind, symbol, logic, and problem prevention (Smith & Kelly, 2015).

Cognitive skill during the childhood is crucial to stimulated since it is the investment of the future life (Kautz, Heckman, Diris, Ter Weel, & Borghans, 2014). The children being exposed to such proper treatment show higher cognitive and academic test than the children who do not receive proper treatment (Welsh, Nix, Blair, Bierman, & Nelson, 2010). Therefore, there is a need to make sure that the children are exposed with sufficient stimuli during this period. Piaget (in Widayanti, 2012) said that when the children's cognitive stimulus is ignored, they will be: 1) less able to develop the perception skill; 2) less able to understand something comprehensively, 3) less able to memorize events, etc.

More 200 million of children in the world, however, do not develop their cognitive potential (MAL-ED Network Investigator, 2018) due to some reasons. In line with this finding, during the preliminary study, we found that there was a low level of students' cognitive skill in two schools become setting of this research. Hence, we intend to conduct this research.

We suppose that the children's low cognitive skill is caused by the lack of learning strategy and learning content obtained since early aged. The activities provided to the children are usually monotonous and conventional rather than varied and inspiring. *Superior Integrated Model* learning strategy and content is firstly designed by Madyawati (2019) and developed in the 2020. This learning strategy and learning content integrates the six stages of children's growth.

Various attempts have been made to develop children's cognitive skill. Muthmainnah (2020), in her research, tried to improve the children's cognitive skill through bottle cap. In addition to this attempt, the cognitive skill of students in State Kindergarten of Pembina Batang Anai is increased by using color sorting activity, which is conducted by Mahdalena (2012). In the last cycle of her research, it was found that the increase in children's cognitive skill reaches 83.33%. Mahnifra (2015) also made another attempt to improve the children's cognitive skill through beam playing activity.

Unlike the previous research, we try to implement *Superior Integrated Model* to improve the students' cognitive skill. *Superior Integrated Model* can stimulate the behavioristic scheme (motoric sensor) and symbolic scheme to train them to solve problems and think over problems. Moreover, *Superior Integrated Model* can also develop the operational scheme. Thus, the children's ability to think logically can also be optimally developed. In short, *Superior Integrated Model* positively affect the children's cognitive skill.

Group of children who are not exposed to *Superior Integrated Model* have relatively standard cognitive skill during a certain period of time compared to the one who is exposed to the model. The children treated by using the learning strategy and learning content of the model, on the other hand, tend to show greater cognitive skill as the model

is more creative and gives freedom to control and experience the learning. Each activity for the children belongs to *Superior Integrated Model*. The output is expected to make the children become more creative, initiative, and logical in solving their trivial problems.

Concerning strength of *Superior Integrated Model*, the hypothesis of this study is that the *Superior and Integrated Model* learning strategy and learning content influence the cognitive skill of kindergarten students in Prembun District Wonosobo Regency.

Methods

The subject of this research was 66 children aged 5-6 from two kindergartens in Prembun District, Aisyiyah Kindergarten and Pertiwi Kindergarten. The two kindergartens were chosen as the subject of the research because they both have the similar cognitive level. We randomly determined the experimental and control group from the two.

This research was a quasi-experiment with *the posttest only design with non-equivalent controlled group/ Expost Facto Design*. This study did not employ pre-test, but make use of the documents owned by the two schools as the equality indicator of the experimental and control group. The treatment offered in this research was the learning strategy and learning content of *Superior Integrated Model (SIM)* for the experimental group. *Superior Integrated Model* includes six stages of early childhood's growth, namely: religious and moral value, cognitive, linguistic, emotion, motor, and artistic skill.

Before the research instrument was employed, try-out test was conducted in Tersobo Kindergarten. The result of try-out test was used to fix the research procedures.

The data collection methods used in this research were test, as the primary method, and observation. The collected data was then analyzed by using *one sample t-test*. *one sample t-test* is used to compare the cognitive skill of the experimental and control group and to know the influence of the treatment provided toward the cognitive skill. The treatment of the learning strategy and learning content of *Superior Integrated Model (SIM)* was given during 12 weeks consecutively on effective teaching and learning hour.

Results

Normality and homogeneity test have been conducted prior to hypothesis testing. The result of the normality test of data distribution using Kolmogorov-Smirnov (K-SZ) shows the value= 0.906, with $p=0.384$, which indicates that the data is normal. Meanwhile, the result of the homogeneity test using *Levens test* toward the cognitive skill of the two groups shows the value of $p=0.227$. This result indicates that both groups, experimental and control group, are homogenous.

To examine whether or not the *Superior Integrated Model* learning strategy and content is effective to improve the cognitive skill, we use empirical and statistical analysis. Based on the empirical analysis of the effectiveness of *Superior Integrated Model*, it shows a positive result by which $[981.36- 60)- (73.33- 58.61)]= 6.64$. Therefore, empirically, *Superior Integrated Model* is effective to improve the cognitive skill of kindergarten students.

The hypothesis testing of the effectiveness of the model is also conducted through statistical analysis, namely by using *one sample t-test*. The result shows that $t_{count}= 3.952$, and $t_{table}= 2.080$. Hence, $t_{count} > t_{table}$ ($3.92 > 2.080$) indicating that the students' cognitive skill in the experimental group is higher than those in the control group. The effectiveness of *Superior Integrated Model* toward the cognitive skill of kindergarten students is, therefore, proven.

Discussions

There are some factors that contributes to this positive affect of *Superior Integrated Model* learning strategy and content. The procedures in implementing *Superior Integrated Model (SIM)* to the experimental group (Aisyiyah Kindergarten of Prembun) is based on the procedures existing in the module or guideline of *Superior Integrated Model (SIM)* implementation. There was a constrain related to the standard language in delivering the lesson for both experimental and control group. The solution for this inconvenience is by adjusting the language used by and for the subjects.

Learning strategy and learning content of *Superior Integrated Model* are creative,

innovative, and inspiring. Through *Superior Integrated Model* (SIM), the students can learn to be responsible to their own activities. Students provided with innovative and fun activities are able to be autonomous thinker (Savery & Duffy, 1996). This statement is in line with Madyawati's (2019) opinion, who says that *Superior Integrated Model* (SIM) can: (1) maximize the nervous system. In the learning strategy and content of SIM, the students are required to use not only left brain but also right brain to be able to play with symbols, colors, and pictures; (2) stimulate the creativity, be simple, easy to conduct, and fun. SIM enables the students to visualize their ideas and opinions; (3) be attractive and visible. SIM allows the students to feel, observe, see, experience, and do it by themselves. Thus, it will be fun for them. The students do activities based on the relationship that exists from each kind of activity they make. By doing various and constructive activities, students will achieve more knowledge.

Each learning strategy and learning content should be well-prepared before the implementation. Hence, teachers must have good classroom management to implement *Superior Integrated Model*. Good preparation is needed to implement this learning strategy and content. For instance, before the class starts, teachers should set the classroom with various playing activities supported by media and tools for the activities. Furthermore, teachers need to provide optimum stimuli to the students. Continuous stimuli are important to support the development of new cognitive scheme leading to the improvement of cognitive skill.

The improvement of the students' cognitive skill in Aisyiyah Kindergarten of Prembun is shown from the increase of the achieved cognitive performance. Before the treatment of *Superior Integrated Model*, the students' cognitive skill only reaches 33.33% of classical completeness. After the treatment for 12 weeks consecutively, the student classical cognitive skill reaches 80%. The positive impact of learning strategy and content of *Superior Integrated Model* is because the SIM requires the teachers to provide various media for each playing activity. Furthermore, the researchers also provide optimum materials and tools that

inspire the students. The materials and tools exist in the students' surrounding and are used in daily life.

In addition, we also make use of many audiovisual pictures and illustration and motivate them as well. The influence of *Superior Integrated Model* learning strategy and content is shown from the improvement of the students' classical cognitive skill before and after the treatment compared to those who receive monotonous and conventional activities. Below is example of activities, and materials and tools used by the children.



Figure 1. The Students' Activities Using *Superior Integrated Model*



Figure 2. The Example of Materials and Tools Used

Conclusion

This study reveals that the learning strategy and learning content of *Superior Integrated Model* affect the students' cognitive skill in Kindergarten of Prembun Wonosobo regency. The students' cognitive skill in this school belongs to low level category before the treatment. It is proven from the document of observation result.

The treatment provided to students to improve their cognitive skill is by implementing the learning strategy and learning content of *Superior Integrated Model* on the six aspects of children's development (religious and moral value, cognitive, linguistic, emotion, motor, and artistic skill). This model is applied by varying the media, materials and tools, playing activities, and motivation.

The students' cognitive skill is evidently developed better after the treatment. Initially, The

students' classical cognitive skill is 33.33% and increases to 80% after the treatment. In conclusion, learning strategy and learning content

of *Superior Integrated Model* influence the students' cognitive skill in Kindergarten of Prembun Wonosobo regency.

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