The Effects of Storytelling Method with Audiovisual Media and Religiosity toward Clean and Healthy Living Program Behaviour (CHLB) of Early Childhood

Experimental Study on Kindergarten Students of Group B in DKI Jakarta Province

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Abstract

This study aims to examine the effect of storytelling method with audiovisual media and religiosity toward Clean and Healthy Living Program (CHLB) in all kindergarten students of group B in DKI Jakarta Province. It used random sampling technique and chooses TK Negeri Latihan as experiment group who learn CHLB through storytelling method with audiovisual media and TK Negeri Cilacap as control group who learn CHLB through storytelling method with audiovisual media. The number of sample totaled 62 students. The experimental study used treatment design by level 2x2. The result of research shows that there is an effect of storytelling method with audiovisual media and religiosity toward CHLB of early childhood. Knowledge in CHLB of students who are given storytelling method using audiovisual media with whiteboard video is higher than students who are given storytelling method using audiovisual media with slideshow video. The students’ knowledge in CHLB has high religiosity compared to students with low religiosity.

Keywords: Storytelling method, audiovisual media, religiosity, Clean and Healthy Living Behaviour Program (CHLB)

Introduction

Health is a human right as well as an investment of the success of nation’s development. Health status is influenced by four kinds of factors namely environment, behavior, health service and heredity [1]. Behavior is one factor that has greatest influence on the high level of public health among those factors [2]. Therefore, healthy behavior is the main prerequisite to improve health and productivity of human resources.

In low-income countries, as many as 15 million children per year died because of infectious diseases. This is a result of not implementing clean and healthy living program in everyday life. [3] According to research findings of health education institution in Indonesia, two out of three (76.6%) of primary school (5-15 years old) suffer health problem every two months [4]. So far, the coverage rate of CHLB in the community is still poor. Furthermore, data on CHLB of Basic Health Research in 2013 have shown that the national proportion of households with CHLB is 32.3%. [5] Healthy children in early life from conception to five years not only growing become a healthy adult, they are also more educated, acquire higher income, and contributing more to the economic aspect [6]. Thus, it indicates how clean and healthy living behaviour of children has positive impact until adulthood.

Because of great impact of healthy behavior, theoretically it only contributes 30-35%, so it is necessary to change unhealthy living behaviors to be healthy. One of the efforts that implemented by the government is program of Clean and Healthy Living Behavior (CHLB) (in Indonesian, namely of program is Perilaku Hidup Bersih Sehat or PHBS) [7]. Based on the survey of CHLB conducted by researcher to 30 children aged 5-6 years in Jakarta, about 65.7% students’ knowledge in CHLB is poor. It supported by the experts, in preoperative stage (2-7 years old) have a concept of health and illness characterized by confusion between causes and influence, superstition and yet can distinguish them [8]. Thus, the implementation of health education as seen as strategic to children considering this age is not relatively formed attitudes and behavior, so it will be easier to promote clean and healthy living behavior than adults.

Proportion of early childhood (0-6 years) in school age group (0-17 years old) which include 39.71%, is very potential to get health education [9]. The advantages of school age groups must be well considered so that children can obtain health education through the cooperation of school environment and health service institution.

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Healthy hygienic behavior should be introduced early to pupils at school to improve their skills in healthy living using storytelling activity; it allows healthy lifestyle habits during adulthood. Storytelling is a method widely used by early childhood teachers to convey messages or information in a fun way [10]. Several studies have revealed that storytelling provides significant results in improving young children language skills [11], social skills [12], as well as healthy living behaviors such as environmental health [13], consuming vegetables [14]. Based on some researches, to form healthy life habits at early age can be done with fun activity through storytelling method.

Storytelling method will be more interesting supported by media. An interesting media for young children is audiovisual media. It is a medium of modern instructional which appropriate based on the development of science and technology, covering media that can be seen and heard [15]. Among some audiovisual media for early childhood students are whiteboard video and slideshow video.

Audiovisual media with whiteboard video is one innovation of the educational process used as multimedia aids in form of text, images, audio, and video to enhance ability, cognitive, interests and motivation of children and affecting various senses (sight, hearing, touch), together with the involvement of active and creative children in the learning process [16]. Meanwhile, audiovisual media with slideshows video is a compact audiovisual presentation covering soundtrack, images, video, sound effects, and even adding special effects [17] thus; it gives significant effect as well as learning by direct demonstration in early childhood education [18]. Both audiovisual media can be used as learning media for young learners that can help the formation of Clean and Healthy Living Behavior (CHLB) in early age.

There are three factors influence the changes of human behavior, namely: predisposing factors, enabling factors and reinforcing factors. Some factors facilitate the form of habits, beliefs, traditions, knowledge and so on [19]. Knowledge in CHLB is obtained by early childhood from family environment and primary education or similar. While belief or religion, we find out how far its practice by religiosity. Religious affiliation comprising both individual and people’s participation and religiosity in the form of priority, trust affects health risks through health-related attitudes and behaviors and social support [20].

Based on the explanation above, there are an interesting thing for researchers to study is how the effect of tellingstory method with audiovisual media and religiosity toward knowledge in Clean and Healthy Living Program Behavior (CHLB) of early childhood?

Research Method

This research was conducted at TK Negeri Latihan II, Jl. 2B Guntur Setia Budi, South Jakarta, DKI Jakarta Province (as a school learning CHLB through storytelling method using audiovisual media with whiteboard video) and TK Negeri Cilacap, Jl. 5, Menteng, Central Jakarta, DKI Jakarta Province (as a school learning CBLH through storytelling method using audiovisual media with slideshows video). Selection of school based on some consideration as follow:

1) TK Negeri Latihan II and TK Negeri Cilacap have relatively similar characteristics, such as in the settlement area, number of students and teachers, school facilities and learning systems.
2) The principal allows his students to be research subject.
3) Teachers are willing to assist in the implementation of this research.

The study was conducted in academic year 2017/2018 and starting in July to November 2017. The implementation was initiated by consultation with the principal then followed by CHLB test to determine the equivalence between two classes as treatment of subject. Furthermore, a level of religiosity test was conducted to determine group students who have a high level of religiosity and low level of religiosity, then conducting experiments. The experimental design used treatment design by level 2x2. On the level of high and low religiosity, the experimental design takes into accounts the circumstances of each level.

There are two groups in this design which each group is selected randomly. First experimental group received knowledge in CHLB through storytelling method using audiovisual media with whiteboard video. Second group is control group received knowledge in CHLB through storytelling method using audiovisual media with slideshows video. The following table data matrix:

<table>
<thead>
<tr>
<th>Research Design of Treatment by level 2x2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Test method</strong></td>
</tr>
<tr>
<td>High (B1)</td>
</tr>
<tr>
<td>Low (B2)</td>
</tr>
</tbody>
</table>

Annotation:

A1 Group of student who given storytelling method using audiovisual media with whiteboard video
A2 Group of student who given storytelling method using audiovisual media with slideshows video.
B1 Group of students with high religiosity
B2 Group of students with low religiosity
A1B1 Group of students who given high religiosity with whiteboard video
A1B2 Group of students who given high religiosity with slideshows video
A2B1 Group of students who given low religiosity with whiteboard video
A2B2 Group of students who given low religiosity with slideshows video.
A2B2 Group of students who given audiovisual media with slideshow video and high religiosity. Thus the number of samples totaled 40 students consists of:

1) TK Negeri Latihan II is 20 students consisting of 10 students with high religiosity and 10 students with low religiosity.

2) TK Negeri Cilacap is 20 children consisting of 10 children with high religiosity and 10 children with low religiosity level.

3. Research Findings

In general, the description of data is presented in table 2 below:

### Table 2 Calculation Result of Research Finding

<table>
<thead>
<tr>
<th>CHLB</th>
<th>Whiteboard video (A₁)</th>
<th>Slideshow video (A₂)</th>
<th>Total Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>High (B₁)</td>
<td>n₁ = 10</td>
<td>n₂ = 10</td>
<td>nₐ₁ = 20</td>
</tr>
<tr>
<td></td>
<td>□X₁ = 420</td>
<td>□X₂ = 284</td>
<td>□Xₐ₁ = 704</td>
</tr>
<tr>
<td></td>
<td>□X₁² = 17670</td>
<td>□X₂² = 8164</td>
<td>□Xₐ₁² = 25834</td>
</tr>
<tr>
<td></td>
<td>x₁ = 42.00</td>
<td>x₂ = 28.40</td>
<td>xₐ₁ = 35.20</td>
</tr>
<tr>
<td></td>
<td>(□X₁)² = 176400</td>
<td>(□X₂)² = 80656</td>
<td>(□Xₐ₁)² = 495616</td>
</tr>
<tr>
<td>Low (B₂)</td>
<td>nₐ = 10</td>
<td>n₂ = 10</td>
<td>n₂ = 20</td>
</tr>
<tr>
<td></td>
<td>□Xₐ = 338</td>
<td>□X₂ = 407</td>
<td>□X₂ = 745</td>
</tr>
<tr>
<td></td>
<td>□Xₐ² = 11506</td>
<td>□X₂² = 16665</td>
<td>□X₂² = 28171</td>
</tr>
<tr>
<td></td>
<td>xₐ = 33.80</td>
<td>x₂ = 40.70</td>
<td>x₂ = 37.25</td>
</tr>
<tr>
<td></td>
<td>(□Xₐ)² = 114244</td>
<td>(□X₂)² = 165649</td>
<td>(□X₂)² = 555025</td>
</tr>
<tr>
<td>Total Number</td>
<td>nₐ₁ = 20</td>
<td>n₂ = 20</td>
<td>nₐ = 40</td>
</tr>
<tr>
<td></td>
<td>□Xₐ₁ = 758</td>
<td>□X₂ = 691</td>
<td>□X = 1449</td>
</tr>
<tr>
<td></td>
<td>□Xₐ₁² = 29176</td>
<td>□X₂² = 24829</td>
<td>□X₂² = 54005</td>
</tr>
<tr>
<td></td>
<td>xₐ₁ = 37.90</td>
<td>x₂ = 34.55</td>
<td>x = 36.225</td>
</tr>
<tr>
<td></td>
<td>(□Xₐ₁)² = 574564</td>
<td>(□X₂)² = 477481</td>
<td>(□X)² = 2099601</td>
</tr>
</tbody>
</table>

### Annotation


B1 Group of students with high religiosity
B2 Group of students with low religiosity
A1B1 Group of students who given audiovisual media with whiteboard video and high religiosity
A1B2 Group of students who given audiovisual media with slideshow video and high religiosity
A2B1 Group of students who given audiovisual media with whiteboard video and low religiosity
A2B2 Group of students who given audiovisual media with slideshow video and high religiosity

The calculation data includes mean, median, mode and standard deviation that can be seen in table 3 below:

### Table 3 Descriptive Statistical Analysis of Knowledge in CHLB

<table>
<thead>
<tr>
<th>Description</th>
<th>N</th>
<th>Max</th>
<th>Min</th>
<th>Range</th>
<th>Mean</th>
<th>Median</th>
<th>Modus</th>
<th>Var</th>
<th>Std Dev</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₁</td>
<td>20</td>
<td>45</td>
<td>30</td>
<td>15</td>
<td>37.90</td>
<td>40.00</td>
<td>35.50</td>
<td>23.56</td>
<td>4.85</td>
</tr>
<tr>
<td>A₂</td>
<td>20</td>
<td>44</td>
<td>23</td>
<td>21</td>
<td>34.55</td>
<td>36.90</td>
<td>41.17</td>
<td>50.26</td>
<td>7.08</td>
</tr>
</tbody>
</table>
Before examining hypothesis testing through variance analysis (ANAVA) of two ways, it needs to be tested data requirement in advance namely normality test and homogeneity test.

1. Normality Test

Testing of normality data used Lilliefors test. The results of normality test data that is H₂ accepted if \( L_{count} < L_{table} \) dan H₁ rejected if \( L_{count} > L_{table} \).

Based on the calculation of data normality in all groups, it is known that \( L_{count} \) for all groups is smaller than \( L_{table} \). It means that all groups have normal distribution. The result of normality test with Lilliefors test can be seen in the following table:

**Table 4 Result of Normality Test sample with denga Lilliefors**

<table>
<thead>
<tr>
<th>Group</th>
<th>Number of sample</th>
<th>( L_{count} (L_a) )</th>
<th>( L_{table} (L_t; \alpha=0.05) )</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₀</td>
<td>20</td>
<td>0.144</td>
<td>0.198</td>
<td>Normal</td>
</tr>
<tr>
<td>A₁</td>
<td>20</td>
<td>0.140</td>
<td>0.198</td>
<td>Normal</td>
</tr>
<tr>
<td>B₀</td>
<td>20</td>
<td>0.176</td>
<td>0.198</td>
<td>Normal</td>
</tr>
<tr>
<td>B₁</td>
<td>20</td>
<td>0.111</td>
<td>0.198</td>
<td>Normal</td>
</tr>
<tr>
<td>A₀B₁</td>
<td>10</td>
<td>0.208</td>
<td>0.280</td>
<td>Normal</td>
</tr>
<tr>
<td>A₁B₁</td>
<td>10</td>
<td>0.225</td>
<td>0.280</td>
<td>Normal</td>
</tr>
<tr>
<td>A₀B₂</td>
<td>10</td>
<td>0.138</td>
<td>0.280</td>
<td>Normal</td>
</tr>
<tr>
<td>A₁B₂</td>
<td>10</td>
<td>0.161</td>
<td>0.280</td>
<td>Normal</td>
</tr>
</tbody>
</table>

2. Homogeneity Test

Testing of variance homogeneity on knowledge in CHLB using Bartlett test at significance level \( \alpha = 0.05 \); \( dk = k-1 \). Testing of variance homogeneity through \( \chi^2 \) with criterion testing \( H_0 \) is accepted if \( \chi_{count}^2 \leq \chi_{table}^2 \) which mean homogeneous variance and \( H_2 \) rejected if \( \chi_{count}^2 > \chi_{table}^2 \) which mean variance is not homogeneous. The results of data homogeneity test on score of knowledge in CHLB of group variance can be seen in table 5 as follows:

**Table 5 Result of Homogeneity Test on Data of Group Variance**

<table>
<thead>
<tr>
<th>Group</th>
<th>( \chi^2 ) count</th>
<th>( \chi^2 ) table</th>
<th>Conclusion</th>
</tr>
</thead>
<tbody>
<tr>
<td>A₀ and A₁</td>
<td>2.662</td>
<td>3.84</td>
<td>Homogeneous</td>
</tr>
<tr>
<td>B₀ and B₁</td>
<td>1.231</td>
<td>3.84</td>
<td>Homogeneous</td>
</tr>
<tr>
<td>A₀B₁, A₁B₀, A₀B₂, A₁B₂</td>
<td>3.637</td>
<td>7.81</td>
<td>Homogeneous</td>
</tr>
</tbody>
</table>

Based on table 5, the results of homogeneity test from both groups of data obtained \( \chi^2 \) count is smaller than \( \chi^2 \) table based on \( \alpha = 0.05 \). It can be concluded that both groups of data have the same variance, so the data group is homogeneous.

Hypothesis testing in this research used variance analysis (ANAVA) of two ways. Variance analysis of two ways is used to examine main effect, interaction effect, and simple effect between learning CHLB through storytelling method with audiovisual media and religiosity towards knowledge in CHLB.

Furthermore, calculation of data results showed the interaction between learning CHLB through storytelling method with audiovisual media and religiosity toward knowledge in CHLB calculated by Tukey test. The result ANOVA of two ways can be seen in the following table:

**Table 6 Result of Variance Analysis with ANAVA of Two Ways**

<table>
<thead>
<tr>
<th>Variance Sources</th>
<th>( Db )</th>
<th>( JK )</th>
<th>( RJK )</th>
<th>( F_{count} )</th>
<th>( F_{table} )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Columns</td>
<td>1</td>
<td>112.22</td>
<td>112.22</td>
<td>13.028</td>
<td>* 4.11</td>
</tr>
<tr>
<td>Between Rows</td>
<td>1</td>
<td>84.32</td>
<td>84.32</td>
<td>9.789</td>
<td>* 4.11</td>
</tr>
<tr>
<td>Interaction</td>
<td>1</td>
<td>1008.33</td>
<td>1008.33</td>
<td>111.050</td>
<td>** 4.11</td>
</tr>
<tr>
<td>Within group</td>
<td>36</td>
<td>310.10</td>
<td>8.61</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>39</td>
<td>1134.38</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Annotation:**
- \( db \) : degree of freedom
- \( JK \) : sum of square
- \( RJK \) : average number of square

Testing criteria used is rejected \( H_0 \) if \( F_{count} > F_{table} \).

**Discussion**

Based on research finding, the discussion of hypothesis results can be presented as follows:

The Differences of knowledge in Clean and Healthy Living Behaviour (CHLB) between students who is given storytelling method using audiovisual media with whiteboard and slideshow video
Based on the results described previously, it proves that there is a significant difference toward knowledge in hygienic behavior of students in group given CHLB learning through storytelling method using audiovisual media with whiteboard video and students given CHLB learning through storytelling method using audiovisual media with slideshow video. In this case, based on average score and ANAVA of two-ways it can be stated that to improve knowledge in CHLB of group B kindergarten students, the provision of learning CHLB through storytelling method using audiovisual media with whiteboard video is more effective than learning CHLB through storytelling method using audiovisual media with slideshow video because there are significant differences in its results.

In group given CHLB through storytelling method using audiovisual media with whiteboard video obtained $\bar{x} = 37.90$ and groups given CHLB through storytelling method using audiovisual media with slideshow video obtained $\bar{x} = 34.55$, so the average is 3.35. This proves that learning CHLB through storytelling method using audiovisual media with whiteboard video affect knowledge in CHLB of students.

The results above explain that learning CHLB can be done through storytelling method with audiovisual media. This is due to audiovisual media provide opportunities for different learners' styles [24]. This opinion supports by religion that learning CHLB through storytelling method is more interesting used media. Audiovisual media is one of media which is very interesting for early age student [25]. It is a modern media that is appropriate with the development of the times covering visible and audible.

Based on finding and statistical results, it can be concluded that knowledge in Clean and Healthy Living Behaviors (CHLB) of kindergarten students through storytelling method using audiovisual media with video whiteboard is higher than learning CHLB through storytelling using audiovisual media with slideshow video.

The Difference Knowledge in Clean and Healthy Living Behaviour (CHLB) between students with high religiosity and low Religiosity

Based on the results described previously, it proves that there is a significant difference toward knowledge in CHLB of students with high religiosity and low religiosity.

In this case, based on the mean value and ANAVA of two-ways, the group given CHLB learning through storytelling method using audiovisual media with whiteboard video obtained $\bar{x} = 61.65$ and group given CHLB through storytelling method using audiovisual media with slideshow video obtained $\bar{x} = 59.60$, so the average is 2.15. This proves that high level of religiosity of students affects the knowledge in CHLB of students.

The above results explain that learning CHLB has a positive relationship with the level of religiosity of the students. Religiosity is the awareness of dependence on God and it is hard to understand logically. The commitment can be proved through the practice of one's worship, moral behaviour and other activities [26].

Students with high religiosity are also suspected of having high knowledge in CHLB. Religiosity encourages positive behaviors such as clean and healthy living behavior. According to Jarvis and Northcott, religious affiliation consisting of both individual and people's participation and religiosity is a priority and trust influences health risks through attitudes and behaviors and social support. Religious factors play a positive role in public health behaviors that affect a person's health risk [20]. It provides an illustration that students who have high religiosity will have a high responsibility also in maintaining health both personal and environmental health. Students with high religiosity are reflected in their knowledge, attitudes, beliefs, and values as a component of the religiosity of each individual.

In contrast, students with low levels of religiosity are poor students in the implementation of religious education obtained from parents, families and teachers, including: (1) knowledge, (2) rituals, (3) experience. This situation cause student lack of hygiene and healthy behaviour in everyday life.

The nature of religion in children, especially early childhood grows to follow the concept on authority, meaning that the religion concept on children is influenced by factors from outside. It is in line with early childhood developments that learn things from outside. In addition, the early childhood's religiousness is in line with the cognitive development that lies between the motor sensory and concrete operational. Parents have an influence on students in accordance with their exploration principles. Obedience to the teachings of religion is a habit that children have learned from parents, teachers, or other adults around them [27].

As the description and statistical results, it can be concluded that knowledge in Clean and Healthy Living Behaviour (CHLB) of students who have higher religiosity than students who have low religiosity.

The Relationship between storytelling method with audiovisual media and Religiosity Toward Knowledge in Clean and Healthy Living Behaviour (CHLB) (INT A X B)

The results of testing two-way ANAVA hypothesis proves that there is an interaction effect between storytelling method with audiovisual media and religiosity toward knowledge in clean and healthy living behavior. $H_0$ is rejected based on value $F_{count} = 117.059 > F_{tab} (0.05) = 4.11$, so it can be concluded there is significant interaction effect between storytelling method with audiovisual media and religiosity toward knowledge in CHLB.

As Musfiroh devides storytelling techniques as follow: (1) telling stories with aids, that is: (a) telling a story with a book (b) telling stories with drawing tools, (c) telling stories with puppets, (d) telling stories motion picture media; and (2) telling stories without aids [28].
Learning CHLB through storytelling method will be more attractive supporting by media. Audiovisual media is a very interesting medium for young children. Audiovisual media is a modern instructional media in accordance with the advancement of science and technology [29].

In addition, according to Jarvis and Northcott, religious affiliated high through the participation of individuals and communities as well as religiosity make health a priority scale of confidence affecting the health risks through social support [20]. In other words affecting one’s health risk is a factor of religiosity that positively contributes to health behavior.

Through storytelling method using audiovisual media of whiteboards and slideshows video can convey the message of Clean and Healthy Living Behavior (CHLB) to students to pay attention to health problems as taught in the Islamic religious and instruction of the Prophet Muhammad’s on hygienic behavior and healthy life, teaches to prevent disease, maintain personal health (skin hygiene, nails, hair, eyes, clothing), eating and drinking, homes and environment, air, motion and rest [31].

Based on the finding and discussion, it can be concluded that there is an effect of storytelling method with audiovisual media and religiosity toward the knowledge in Clean and Healthy Living Behaviors (CHLB) of students.

Conclusion

Based on the research results, it shows that there is an effect of storytelling method with audiovisual media and religiosity toward the knowledge in Clean and Healthy Living Behaviors (CHLB) of early childhood. Knowledge in CHLB of students who were given storytelling method using audiovisual media with whiteboard video is higher than students who were given storytelling method using audiovisual media with slideshow video. Moreover, the students’ knowledge in CHLB has high religiosity compared to students with low religiosity.

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