



## The Effectiveness of Fun Cooking Learning Model against Multimedia-Based for Children Aged 5-6 Years

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**Abstract :** This research is aimed at getting a set product of fun cooking learning model against multimedia-based in the form of cooking demonstration video and analyzing its effectiveness to improve knowledge and skill of children aged 5-6 years in group B at Bekasi kindergarten. Research method used was Research and Development (R&D) based on ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model. Paired Sample Test result that obtained  $p = 0.0032 < \alpha (0.05)$  after giving intervention of cooking demonstration video about healthy food is 0.604. It includes in medium category. The result of the average value data obtained shows the description of the effectiveness of healthy food shows the average percentage value before applied is 49.5% very ineffective scale criterion. While the average percentage value after applied media healthy cooking video that is 80% indicates effective criteria. Based on these data the skills of children aged 5-6 years after applied healthy cooking video media is more effective than skill value before applied media. So, the learning media has been said to be "very good and suitable".

**Keywords:** *Learning Model, Fun Cooking, Multimedia-based, Knowledge, Skill, Children Aged 5-6 Years*

### Introduction

An early childhood education is very important and cannot be ignored for the success of further education. The law of National Education System Number 20 of the Year 2003 article 1 verse 14 explains that early childhood conducted through giving stimulation that aimed for children since birth until 6 years old. Early Childhood Education (ECE) is very important to stimulate the children development where it is the golden aged or a sensitive period to stimulate and quickly absorb information.

Learning in early childhood develops cognitive, linguistic, motor, physical, and social emotion aspects. One of the most important lessons learned in early childhood is the creative ability of children. One of the areas in children development that taught by kindergarten is creativity. Whereas, it included in an integrated activity that develops all aspects of development, especially cognitive and artistic aspects. Educators strive to provide creative development services by doing free drawing, coloring, painting, and folding which is done twice a week. Lack of variation in creative



activity influence children's creativity. It can enhance children's creativity through cognitive and motor activity in the cooking class.

A cooking class is a cooking activity done in groups in a place to process and cook in a more conceptualized manner correctly. According to Desi (2010), cooking class activity is an appropriate vehicle for kindergarten children who can grow and improve directly the learning experience of children. At the same time, this activity can build children's creativity, introduce food, process food, blend colors, even train children fine motor, through cutting, squeezing, shaping and printing.

Fun cooking learning model against multimedia-based implemented cooking demonstration video to increase knowledge. The media used was cooking demonstration video as an educational media of nutrition containing PUGS (General Guidance of Balanced Nutrition) messages, materials, cooking tools as well as functions of food ingredients, and various types of nutritious food as a medium of knowledge. Based on multimedia, it has PUGS (General Guidance of Balanced Nutrition) related to images and nutritional food. In addition, cooking demonstration media was made to demonstrate some healthy food menu for children aged 5-6 years with an interesting method. Furthermore, the

media will be applied by children in using an interesting model of learning that is creative play.

The utilization of fun cooking learning model which is good and adequate is expected to stimulate minds, feelings, attention, and interest of children aged 5-6 years. So, the learning process can run well and exciting. One of the lessons need to be given in early childhood aged 5-6 years is known in the form of cooking demonstration video.

### Materials and Methods

This research used a quantitative descriptive analysis approach. A Research and Development (R&D) was used as research method to produce a certain product and test product effectiveness (Sugiyono, 2010:470). The development model used ADDIE which consists of (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation. The research subjects used were children aged 5-6 years in group B at Bekasi Kindergarten.

A quantitative data was obtained to evaluate questionnaires' result from media experts and linguist experts about product development. Data collection was taken through two stages of assessment that were a psychomotor and cognitive achievement. The results of the data were calculated by using percentage assessment below.

**Table 1. Percentage of Assessment Criterias**

Percentage	Assessment Criteria
81 - 100%	Excellent
60 - 80 %	Good
41 - 60 %	Sufficient
21 - 40%	Deficient
0 - 20%	Very Bad

Source: Arikunto (2010)



Score gained converted to percentage with the following formula:

$$\text{Score} = \frac{5n+4nn+2n+n}{5N} \times 100\%$$

Information: n = Amount earned  
 N = Item amount

Assessment instruments used were questionnaires and observation sheets.

**Table 2. Cooking Demonstration Video Grid Instrument about Healthy Food for Media Expert Assessment**

No	Assessment Aspects
1.	<b>The effectiveness of screen design</b>
	Font size.
	Shape/ kinds of text.
	Font color.
	Image quality.
	The color composition of the background color.
	Clarity of narration.
	Image effectiveness.
2.	<b>Audio or sound</b>
	Companion music.
	Narrator's voice.
3.	<b>Ease of program operation</b>
	Programs are easy to operate / use.
	Systematic presentation.
4.	<b>Consistency</b>
	Consistency of the word, the term of the sentence.
	Consistency of rippling / groove.
5.	<b>Navigation</b>
	The effectiveness of navigation.
	Navigation function.
6.	<b>Utilization</b>
	Giving the focus of attention.
	Simplify the teacher / student.



**Table 3. Cooking Demonstration Video Grid Instrument about Healthy Food for Material Expert Assessment**

No.	Assessment Aspects
1.	The precise selection of topics for multimedia.
2.	Compliance with target characteristics.
3.	Consistency of activity content.
4.	Clarity of description / subject matter.
5.	Conformity examples with descriptions.
6.	Clarity example.
7.	Systematic presentation.
8.	Effectiveness.
9.	Quality of learning interaction.
10.	Giving motivation.
11.	Clarity of feedback / response.
12.	Language usage.
13.	Sequencing / sequence / sequencing.

**Table 4. Cooking Demonstration Video Grid Instrument about Healthy Food for Learners Implementation**

No	Assessment Aspects
	<b>Activity of the child</b>
1	The child is very obedient when the teacher conditions the class before watching the video.
2	Children are very enthusiastic and feel happy watching the video.
3	The child responds very well to the video.
	Children's attraction.
4	Children love the character of the panda chef.
5	Children are very focused on watching videos.
	<b>Children focus on watching videos</b>
6	Children watch the video until it runs out.
	<b>Child Knowledge and Motivation</b>
7	Children can name 3 groceries in a video show.
8	Children can name 2 food items in a video show.
9	Children have a strong desire to make healthy food.
10	Children have a desire to make healthy food.



**The Discussion and Results**

The research result was the procedure of developing ADDIE model (Analysis, Design, Development, Implementation, and Evaluation), the expert trials and learner's trials' result and data analysis on the effectiveness of the uses of cooking demonstration video about healthy food.

**Experts and Learners Assessment Results**

Based on calculations media expert test ratings, subject matter experts, assessment and testing of teachers to students, it obtained the following results: 1) Media expert trial for

healthy food cooking media, first media expert is 92.9% and second media expert is 91.7%, both are in excellent category; 2) Material expert trials for healthy food cooking video, first material expert is 89,2% excellent category and second material expert obtained 70,76%, a good category; 3) Tests on learners for healthy food cooking video obtained results are 96.6% in individual trials, limited group trials are 93.9%, and field trials are 95%, and the test results fall into excellent the category as well. The product revision is no longer necessary because the learning media has been said "Excellent" and "Eligible" and there is no negative response from the validation of experts and learners (children aged 5-6 years).

**Cooking Video Media Implementation Result about Healthy Food**

**Table 5. Distribution of Pre-test Value and Post Test Skills**

Value	Info	Pre Test		Post Test	
		Qty	(%)	Qty	(%)
3,4 to 4	BSB	0	0	25	41,67
2,6 to 3,3	BSH	1	1,67	24	40
1,8 to 2,5	MB	44	73,33	9	15
1 to 1,7	BB	15	25	2	3,33
<b>Total</b>		<b>60</b>	<b>100</b>	<b>60</b>	<b>100</b>
<b>Mean</b>		<b>1,98</b>		<b>3,2</b>	
<b>Median</b>		<b>2</b>		<b>3,2</b>	
<b>Mode</b>		<b>2,167</b>		<b>3,9</b>	
<b>Standard Deviation</b>		<b>0,30091</b>		<b>0,61396</b>	

Based on the above table, the value of pre-test skills before applied video media to cook healthy food as much as 1 child (1.67%) got value in the span of 2.6 to 3.3 with the assessment criteria of BSH (Developed Expectation), then the most 44 children (73.33%) get the value with a range of 1.8 to 2.5 on the assessment criteria MB (Beginning) while 15 children (25%) obtained value range 1 to 1.7 with BB assessment criteria (Not yet Developed). The mean (average) value

of the skill pre-test is 1.98 with the MB (Start Evaluation) criteria of 60, the median value of 2 with the MB Assessment criteria (MB) and mode of 2.167 with the MB assessment criteria (Beginning). Then the standard deviation of 0.30091.

After showing healthy cooking video media, the value of post-test skill to decorate cupcake as many as 25 children (41.67%) got value in the range of 3.4 to



4 with the assessment criteria of BSB (Growing Very Good), as many as 24 children (40%) scored in a range of 2.6 to 3.3 with the assessment criteria of BSH (Developed Expectation), then the most 9 children (15%) get the value with the range of 1.8 to 2.5 on the assessment criteria MB (Start Developing) while 2 children (3.33%) obtained value range 1 to 1.7 with BB assessment criteria (Not yet Developed). Based on the skill post-test data which is mostly directed on the assessment criteria of BSB (Excellent Development). Mean score (average) on skill cupcake cupping post-test of 3.2 with

criteria of BSH assessment (Evolving as Expectation) of 60 children, median value of 3.2 with assessment criteria of BSH (Expanded Expectations) and mode of 3.9 with the assessment criteria of BSB (Very Good Develop). Then the standard deviation of 0.61396.

Improvement of pre-test and post-test score of pre-test and post-test skill of cupcake decorating in children aged 5-6 years given healthy food cooking video media 1.22 from value 1.98 on criteria of MB assessment (Start Developing) to reach 3.2 with assessment of BSH (Growing Up Expectations).

**Table 6. Comparative Knowledge of Learners before and After Cooking Video Implementation about Healthy Food**

	Average	Standard Deviation	P Value
Before	1,98	0,30091	0.032
After	3,2	0,61396	

Based on Table 13 the average score of children's skill score before the provision of healthy food cooking media was 1.98 with SD = 0.30091, whereas the mean score of child skill after cooking medium of healthy food was 3.2 with SD = 0.61396. Paired Sample Test result obtained p value = 0.032 < α (0.05) hence, there is significant influence on average skill score in children aged 5-6 years after giving intervention in the form of healthy food cook media. Increased skill results of children aged 5-6 years can be known using the gain score formula are the gain score obtained by students and students kindergarten B during pre-test and post-test of students. The normalized gain average (N-Gain) is expressed by the following equation:

$$G = \frac{3,2-1,98}{4-1,98}$$

$$G = \frac{1,22}{2,02}$$

$$G = 0,604$$

The increase value is 0.604. The value is interpreted into the Gain value classification table is in the range of 0.7 > (N-gain) ≥ 0.3. Thus, the improvement of the skill of children aged 5-6 years with applied healthy video media cook food is in the medium category. Based on the data the average score obtained shows the description of the effectiveness of healthy food cook medium media shows the average percentage value before applied by 1.98 is converted to percentage value (% = mean: mask x 100 score) % = (1.98: 4) x 100 is 49.5% indicates very ineffective scale criteria. While the average percentage value after applying the healthy food cooking video media that is % = (3, 2: 4) x 100 is 80% indicates effective criteria.



Based on the results of the above review, cooking video about healthy food including audio-visual media. The medium is considered effective for use as a learning tool, videos played in front of the child must be an integral part of the learning activity. According to Elisabeth Hurlock explains that the video can please the child by bringing them into a new world of humans and animals, and doing things that he cannot do. The results of this research are in accordance with the opinion of Elisabeth Hurlock which explains that the video can please the child by bringing them into a new world of humans and animals, and doing things that cannot be done. The use of healthy food cooking videos in the learning process due to cooking demonstration video is very interesting and fun so that children easily receive the knowledge gained. In line with the opinion of Richard in the explanation of the characteristics of early childhood that fairy tale or story is a much-loved activity by the child at the same time can train to develop the imagination, cognitive and psychomotor abilities of children, especially in terms of creativity.

### Conclusion

Based on the discussion and results of research that has been done, it can be concluded that the learning media

has been said "Very Good" and "Eligible". Paired Sample Test result obtained p value =  $0.032 < \alpha (0.05)$ . Hence, there is significant influence on average skill score in children aged 5-6 years after giving intervention of healthy food. The increase value is 0.604. Improving the skills of children aged 5-6 years with applied healthy food cooking media videos are in the medium category. The result of the average value data obtained shows the description of the effectiveness of healthy food shows the average percentage value before applied is 49.5% very ineffective scale criterion. While the average percentage value after applied media healthy cooking video that is 80% indicates effective criteria. Based on these data the skills of children aged 5-6 years after applied healthy cooking video media is more effective than skill value before applied media.

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