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## Improving Knowledge of Chicken Nugget Processing Using Animated Videos for Junior High School Students

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### ABSTRACTS

The purpose of this study was to increase the knowledge of junior high school students regarding the processing of chicken nuggets in terms of knowledge of materials, equipment and stages of manufacture. The method used in this research is video animation. This method uses audio-visual so that it can increase students' interest in learning the processing of chicken nuggets. The approach used in this research is quantitative. The results showed that the students' knowledge about processing chicken nuggets increased. This can be seen from the students' post-test results increased by 31.25%. The animated video method given to students provides an explanation of the pictures of tools and materials as well as an explanation of the manufacturing process optimally. Therefore, students can understand the material well.

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## 1. INTRODUCTION

Meat processing is one of the efforts to extend the shelf life of meat (Zahra et al., 2013). Chicken nuggets are an example of processed chicken meat. The explanation of the material on how to process chicken nuggets in junior high schools can be done to increase knowledge about the diversification of processed chicken meat products. The media that can be used to explain the material is animated video.

In many studies discuss the use of animated videos to improve student learning outcomes. In a previous study, that after using animated video media had a good impact on increasing interest and producing satisfactory values and achieving learning goals (Sunami & Aslam, 2021). In addition, the use of animated video media of the human respiratory system can improve learning outcomes, the use of animated videos is very useful for students in understanding lessons that are difficult to explain concretely (Noviyanto et al., 2015). It is also agreed by other researchers that the use of animated video media has an effect on improving student learning outcomes (Nurhayati et al., 2014). The use of video media affects student interest and learning outcomes (Viviantini et al., 2015). Also through online learning by using animated video media on the subject matter of Mathematics, the subject matter of "Quaders" in junior high school can improve student learning outcomes (Masdafni, 2020). However, at this time there is no research that discusses increasing knowledge about processing chicken nuggets in junior high school students using animated videos.

The purpose of this study was to increase students' knowledge about the processing of chicken nuggets both in knowledge of materials, equipment and stages of manufacture. This study uses a quantitative approach using a pre-experimental method in the form of a one-group pre-test-post-test design. Data analysis used descriptive statistics by comparing the average value of the pre-test with the post-test. The results showed an increase in the average value after being given animated video material.

## 2. THEORITICAL FRAMEWORK

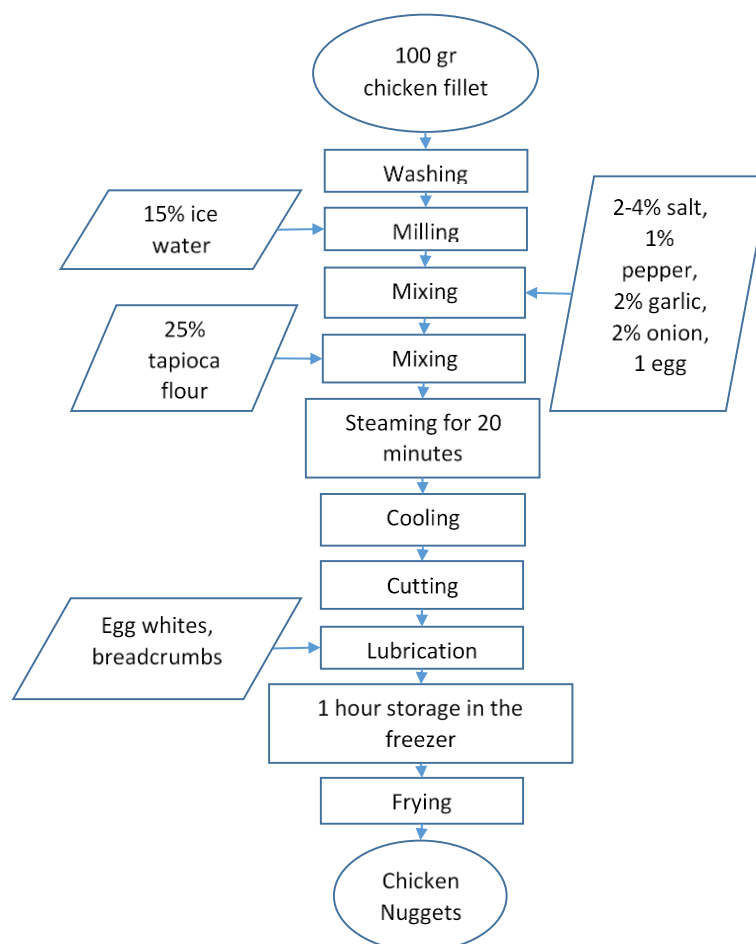
### 2.1. Animated videos

Animated video is a medium that combines images, sound, and text. Animated videos can attract attention, and are able to convey a message well (Permatasari et al., 2019). The development of animated video learning media requires tools in the form of applications to support the process of making animated videos. Therefore, one of the tools in the development of animated videos is animaker. Learning using video or animation is more successful because it is able to enter through 2 human sensory sensors, namely through the eyes and ears (Apriansyah, 2020).

### 2.2. Chicken nuggets processing

Chicken meat is perishable because it is very susceptible to contamination by spoilage microorganisms and pathogenic microorganisms (Sangadji et al., 2019). Processing meat into various products can increase its shelf life, as well as increase the diversification of processed meat products as well as consumer palatability. One of the processed meat products known to the general public in Indonesia is chicken nuggets.

**Figure 1** shows details on the processing of chicken nuggets. In mind Nugget is a form of ground beef product that is seasoned, then covered with flour adhesives, breaded with breadcrumbs, and half cooked and then frozen to maintain its quality during storage (Permadi et al., 2012).



**Figure 1.** Chicken nugget processing flow chart.

### 3. METHODS

The type of research method used is quantitative research using the pre-experimental design method (one group pre-test and post-test). The participants were 12 students of 9th-grade Junior High School 3 Purwadadi, Indonesia. 12 students consisting of 4 male students 33.3% and 8 female students 66.7%. The data collection instrument used pre-test and post-test to see students' knowledge about processing chicken nuggets. The pre-test and post-test consisted of 9 multiple choice questions made using Google form. The collected data were analyzed using descriptive statistics.

During learning, we contact students via social media whatsapp. Before learning begins, students are given a pre-test link first. After the pre-test was completed, students were given an animated video that had been uploaded to YouTube regarding the processing of chicken nuggets along with the post-test link. We explained to students that the post-test was done after watching the video, and if there were students who did not understand, it could be discussed via chat.

### 4. RESULTS AND DISCUSSION

#### 4.1. Student demographics

This research was conducted in junior high school with a sample of 12 students from 177 9th-grade population. The age of the students ranged from 14-15 years. 12 students consisting of 4 male students 33.3% and 8 female students 66.7% were randomly selected. The student's address is in the Purwadadi district and its surroundings.

12 students have good communication. For social interaction only 5 out of 12 students are good. Only 4 students have better concentration, understanding and knowledge.

#### 4.2. Phenomena in the learning process

When learning online, students are only given assignments and materials from school worksheets. Animated video is one method that can be used to attract students' interest in learning. This method increases students' knowledge through visual and audio processing of chicken nuggets.

The stages of learning carried out in the first session of students seemed less enthusiastic in learning. In the second session, animated videos were given to students via the whatsapp application. Students look enthusiastic in learning. The level of evaluation of students' abilities is given after the learning process. The results of the study showed that learning crafts on fishery processing and maintenance materials regarding processing chicken nuggets could be given to junior high school students.

#### 4.3. Analysis of research data

The pre-test and post-test were made using a google form and given to students through the whatsapp application. **Table 1** shows questions to determine students' knowledge about nugget processing. In addition, it also shows the results of the pre-test, post-test, and the increase.

After being given an animated video about chicken nuggets processing material, there are several points from these results:

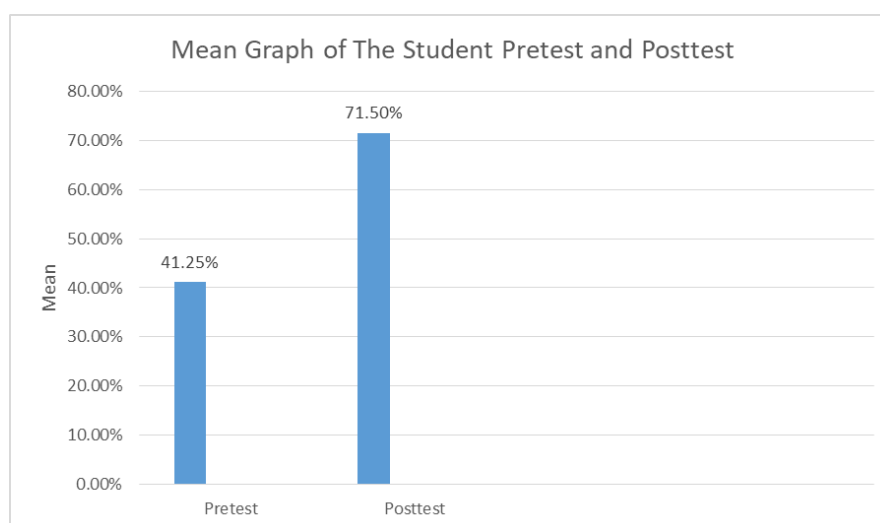
- (i) The results of the first question showed an increase in students' knowledge of 41.67% regarding the purpose of food processing.
- (ii) The results of the second, fourth, fifth and sixth questions showed an increase in students' knowledge of 58.33, 33.33, 66.67, and 33.33% regarding raw materials for making nuggets.
- (iii) The results of the third question, namely static have the same pre-test and post-test values, which are 100%
- (iv) The results of the seventh, eighth, and ninth questions showed an increase in students' knowledge of 16.67%.

From the results of the pre-test and post-test shows that there is a significant development in scores between before and after viewing the animated video. All points regarding the processing of chicken nuggets both materials, tools, and stages of the process can be understood well by students. This is in line with previous research which explains that the use of animated videos is very useful for students in understanding the lesson (Noviyanto et al., 2015). This can be seen from the increase in the post-test score compared to the pre-test of all question points. Although there is one point that has the same score on the third question but that is because all students can answer correctly. The average results of the students' pre-test and post-test are depicted in **Figure 2**.

**Figure 2** explains the results of the students' pre-test and post-test. We found that the average pre-test result was 41.25% while the average post-test result was 71.50%. The average post-test score after learning with animated video media is greater than the post-test score before learning with animated video media. From these results, it can be seen that there is an increase in students' knowledge about processing chicken nuggets after using animated videos as learning media. This is in line with previous research which explains that there is an increase in student learning outcomes or knowledge in junior high schools (Masdafni, 2020).

**Table 1.** Student pre-test and post-test results.

No	Question	Pre-Test	Post-Test	Gain
1	The purpose of processing food ingredients such as chicken meat	41.67%	83.33%	41.67%
2	Criteria for good meat raw materials for making nuggets	8.33%	66.67%	58.33%
3	Choose one of the ingredients for making nuggets	100.00%	100.00%	0.00%
4	Choose something that is not a spice for making nuggets	41.67%	75.00%	33.33%
5	The function of eggs in making nuggets	0.00%	66.67%	66.67%
6	The function of tapioca flour in making nuggets	41.67%	75.00%	33.33%
7	Choose one of the stages of making nuggets	83.33%	100.00%	16.67%
8	The method used for frying nuggets	50.00%	66.67%	16.67%
9	The function of adding ice cubes in making nuggets	8.33%	25.00%	16.67%

**Figure 2.** Mean graph of the student pre-test and posttest.

## 5. CONCLUSION

Based on the results and discussion, it can be concluded that the use of animated video media can increase knowledge about processing chicken nuggets in 9th-grade students of Junior High School 3 Purwadadi. The use of animated video media can increase students' knowledge and interest in reading due to the presence of audio and visual. It is also hoped that this animated video can be practiced by students at home.

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## 5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. The authors confirmed that the paper was free of plagiarism.

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