

## MEMORIZATION LEARNING MODEL ON TEXTILE KNOWLEDGE LEARNING OUTCOME AT VOCATIONAL HIGH SCHOOL NEGERI 3 PEMATANGSIANTAR

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### ABSTRACT

*The purpose of this study is to determine the effect of memorization learning model on student's learning outcome in Textile Knowledge course in the Dressmaking department. The subject of research is Dressmaking department students of SMK (Vocational High School) Negeri 3 Pematangsiantar with a population of 64 students. The data is obtained from tests results and analyzed using t-test at significant level of 5%. The results shows that there was an increase in students' learning outcomes compared to those taught using conventional model. Students taught using conventional model had an average score of (57.03), whereas those taught using memorization learning model had an average score of (72.03). The result of requirements analysis showed that the distribution data result of learning the knowledge of textile taught by conventional teaching is a normal distribution where  $0.151 < 0.157$  and data learning outcomes of students with learning model memorization learning is a normal distribution where  $0.079 < 0.151$  and the variance of data is homogeneous for  $f$  count  $1.71 < f$  table  $1.82$ . It was concluded that the results of learning by memorization learning model is better than conventional learning where the test results show that the  $t^{value} -4.761 < t^{table}: 1.67$ . Judging from the results of this study, the results of Textile Knowledge learning outcomes for students taught using memorization learning model are higher than students taught using conventional learning models. This means that the use of learning memorization learning model can be used as an alternative.*

**Keywords:** learning outcomes, textile knowledge, memorization learning model

### 1. INTRODUCTION

Education is a process in which attitude of individual/group changes in an effort to humanize through teaching and training as a learning service. UU Republik Indonesia Nomor 20 Tahun 2003 tentang Sistem Pendidikan Nasional (National Education System) Pasal 1 ayat (1) states that education is a conscious and planned effort to create a learning environment so that students actively develop their potential to possess spiritual religious strenght, self control, attitude, knowledge, good manners, and skills needed by themselves, society, and the nation. Based on the definitions above, it is clear that education has an important role to create a smart, peaceful, open, and democratic society. Therefore education modernization is needed to be done in every aspect to further increase the quality of education. One of the most important aspects to increase the quality of education is learning process. Systemic upgrades to all education components such as teacher training, curriculum revision, learning sources, facilities, environment, and school management in the capital and other regions are the factors that contribute to increase in education quality. The government has tried to solve problems facing

education quality in Indonesia. Learning process is an education process in which students develop their knowledge, thinking skill, and psychomotoric ability through interaction with learning sources designed in syllabus and lesson plans. During the process, students observe, ask, gather information, analyze the information, and communicate their finding. The result of this process is in the form of knowledge and skill, which is called instructional effect.

Education that is capable to support the future is education that can develop the students potential so that they can face and solve the problems they will face. Education is also one of the most important needs of human. Without it, humanity would not develop and regress, Education is a continuous process since birth until death, either through formal or nonformal channel.

Students of Vocational High School (SMK) are human resources who have the potential to live on their own feet with skills and knowledge and are able to apply their skills directly to the field. SMK as a part of higher education has the following purposes: 1) Prepare students to be part of the work force and develop professionalism. 2) Prepare students to choose their career, compete, and develop their skills. 3) Prepare a future professional work force, 4) Create graduates that are productive, adaptive, and creative. SMK Negeri 3 Pematangsiantar, in particular Dressmaking department, is an education unit that place importance to develop the students skill on their field of work. Nowadays, SMK faces difficult situation where the graduates are not ready to be part of the workforce (Waspada, 2009). Fransiska (in Kompas Cyber Media, 2009) states that the quality of SMK graduates is still low and can not get positions in the field. The low quality of SMK graduates are caused by the lack of mastery of competencies and subcompetencies in vocational high School (SMK).

Textile Knowledge is one of the courses provided in Dressmaking department of vocational high School (SMK) Negeri 3 Pematangsiantar. The course focuses on students ability to recognize and understand textile materials. The learning outcomes that leaves much to be desired are caused by the teacher-oriented conventional learning model. Observations show that students are not actively engaged to the learning process. Students rarely communicate their ideas, even though the teacher ask them to ask if there is anything they didn't understand. Conventional learning model is known to use lectures, tend to be based on materials in textbooks and curriculum, and seldom relates the learning materials to real world problem. When the teacher explains, the students tend to be passively listening to the teacher. They do not ask or give arguments on problems.

## **2. RESEARCH METHODOLOGY**

This is a quasi-experimental research with a population of 96 students. The sample (grade X of Dressmaking department) is determined by simple random sampling. The sample is then grouped into two: the control class which is taught using conventional system (Class X-2) and the experimental class (Class X-3). Before the treatment, students are given pre-test to be compared with post-test result after the treatment.

The data in this study is in the form of test score. Before used to test the student, the initial pre-test and post-test questions are tested on their validity and reliability so that the data obtained is valid. The validity was tested using point-biserial correlation (Arikunto, 2010) and compared with the r-table value with significant level of 5%. The scores are analyzed with t-test. The null hypothesis is that memorization learning model has no significant effect on Textile Knowledge

learning outcome. Therefore, if the analysis shows that  $t \geq t_{1-\alpha}$  then the alternative hypothesis, which is memorization learning model significantly affects Textile Knowledge learning outcome, is correct.

### 3. RESULT AND DISCUSSION

Differences in student learning outcomes show the influence during the learning process passed by each student in both classes. The influence cannot be reviewed from the taught material, the teacher teaching as well as the number of hours of study in each meeting, because these three things have been applied equally in both classes. Differences in student learning outcomes are obtained from different treatments applied to each class, where in the experimental class applied learning process with using memorization learning model while in control class applied learning with conventional learning. The memorization learning model or the memorization model is a model directed to develop the ability of absorbing students and integrating information so that students can remember the information it has received and recalled back in time (Aunurrahman, 2009). Textile fiber textile subclasses and textile fiber classifications tend to include dominant memorization materials, since they do not lead students to remember the type of textile fibers, or understand a textile fiber process work, but rather focus on the introduction of fiber jeans with examples of textile products have been described by their characteristics, classifications and examples. Although textile fiber subtypes tend to have much discussion, students can find memorizing strategies to assimilate important concepts from each subject in the textile fiber sub-materials to be recalled or re-called on when needed.

The result of study done in vocational high School (SMK) Negeri 3 Pematangsiantar shows that the control class using conventional learning model ( $X_1$ ) has an average score of 57.03 with standard deviation of 14.06. The maximum and minimum scores are 85 and 35 respectively. The score distribution of Textile Knowledge learning outcome of the control class taught using conventional learning model can be seen in the graph below:

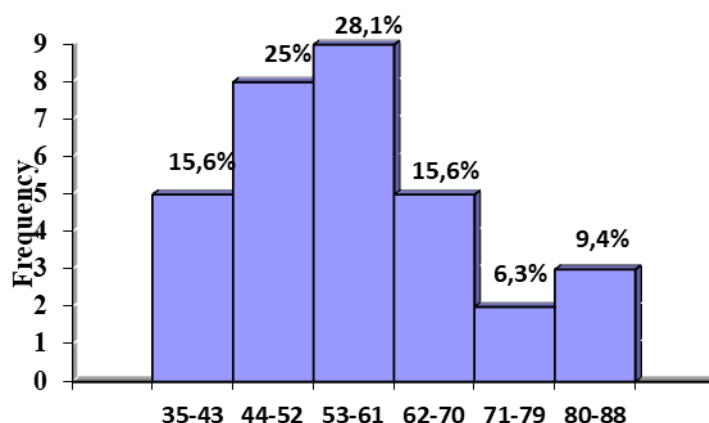


Fig. 1. Control Class (Conventional model) Post-test Score result

During the third meeting, the researchers observed that students ability to work in a group, discuss, and finish the task increased. Students also excitedly expressed their imagination and ideas on patterns and pictures on textile material. Although during the first meeting the students could not express their

ideas decently, the second and third meeting showed an increase of imagination and expression. This is corroborated by interviewing 3 students who stated that through group activities in classifying textile material, students are excited to learn because of the activities. However, this increase is not better than the increase in experimental class. The conventional learning model in control class could not make the students actively learn. The students interest and excitement only appeared when the teacher showed pictures of textile material through PowerPoint slides. The students tend to only listen to the teacher's explanation and take notes, but do not construct their own understanding of textile fibers and treatment. This listening and taking notes do not help the students to understand fully. The comparison between the control class and the experimental class during the three meetings can be seen in the table below:

Table 1. Average Worksheet Scores of Experimental and Control Classes

Meeting number	Average score	
	Experimental class	Control class
Meeting 1	90,25	77,80
Meeting 2	91,50	79,00
Meeting 3	91,75	82,00

The post-test score of experimental class which is taught using memorization learning model has an average of (72.03) with a standard deviation of (10.82), maximum score of (90), and minimum score of (50). This is higher than those of the control class. The score distribution can be seen in the graph below:

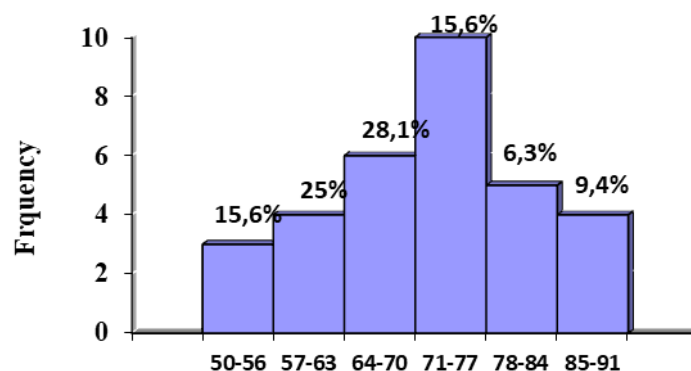


Fig. 2 Experimental class (Memorization Learning) post-test result

The t-test result is  $t_{\text{computed}} = -4.761$ . This is compared to  $t_{\text{table}} = 1.67$ . As  $t_{\text{computed}} < t_{\text{table}}$ , the alternative hypothesis is accepted. Therefore, memorization learning model significantly affect Textile Knowledge learning outcome in vocational high School (SMK). Negeri 3. Furthermore, the memorization learning model affect the learning outcome positively. Student learning in the experimental class also makes students more show better interaction among peers, as it is based observations of researchers during the learning process, with the existence of this discussion process making the occurrence of two-way

communication, so that in the learning process students show a better spirit. In addition to the interaction and spirit good, the learning process in the experimental class is also more fun because in phase 3 that is to increase the sensory image, to make students eager to express his imagination in a drawing. Although on the first meeting of students is still lacking in improving the image of his censorship, but at the second meeting, the imagination of student images is much better and creative.

This agrees with the study by Marintan Nirmalasari (2011) which shows that memorization learning model increases learning outcome in Chemistry and helps the student to understand the material easily. Sabie Khamees, Khalid (2016) explains that learning using memorization learning model increases the motivation to learn to memorize in students with low cognitive ability. This is not to say that understanding is not important, but memorizing ability is not to be ignored. Klemm (2017) states that mainstream educational theory possess attributes like knowledge, creativity, inquiry-based learning, and self expression. However, this approach tend to be biased against memorization's role in learning. Students can not apply what they understand if they can't memorize it. Furthermore, good memory can increase cognitive skills so that new information can be retained and developed quickly.

Michael A. Conditt, Francesca Gandolfo, and Ferdinando A. Mussa Ivaldi (1997) says "Taken together, the articles remind us that individual cognition, while not the only factor in learning, is a central determining feature of learning. However, we must work to further develop the present partial theory of conceptual change to fill in the missing cognitive core of the present shell." The memorization model is useful to balance the function of left and right hemisphere of the brain in processing information. The left hemisphere tends to be logical, sequential, partial, and process information one by one, whereas the right hemisphere thinks randomly, holistic, and creative in receiving or retaining information. Students usually have trouble in memorizing because in the learning process they tend to use only the left brain. This is caused by the pressure at school to think in sequence and be logical. The right brain should also be used because it helps in memorizing and thinking creatively. By using both sides of the brain, the effectiveness of learning process is increased. By using the memorization learning model in Textile Knowledge course, in particular materials about kinds of textile, it is hoped that students can increase their memory capacity and for the students to think that learning is fun. To sum up, based on the result and hypothesis test and discussions above, there is a significant effect of memorization learning model on Textile Knowledge learning outcome in grade X vocational high School (SMK) Negeri 3 Pematangsiantar Academic Year 2015/2016. Joyce & Weil (2000) explains that learning model is a plan or pattern used as a guide to organize learning process in the class and to determine instruments used so that the expected learning outcomes are reached. Memorizing is an active effort to put information into memory. Lorayne (2008) states that some people can memorize information quickly, but can not retain it for a long time. Memorizing skill that is not trained regularly causes this problem.

Related to this, Jensen (2007) explains that an easy way to memorize something is to make it new, different, and fresh. This is because the brain has a high attentional bias towards things that are not the normal. This is why we usually remember important things or happy moments. We also remember things that agree to our perspective easier than things that do not (James, 1996). Bjork

& Robert (1996) states that if the memory does not work, cognitive functions like perception, logic, language, and problem solving would not happen. Therefore, memory affects cognitive function. After studying various learning models developed by experts, Joyce & Weil (2000) concludes that learning model possesses these characteristics: 1) Syntactic, 2) Social system, 3) Reaction principle, 4) supporting system, 5) instructional effect and side effect. Memorization learning model is thought to be able to increase Textile Knowledge learning outcome because it is supported by pictures, concrete materials, films and other audiovisual media to enrich students association of the theoretical knowledge and real world.

#### 4. CONCLUSIONS

Based on the result above, it can be concluded that a) Learning outcome of Textile Knowledge of students taught using conventional model in vocational high School (SMK) Negeri 3 Pematangsiantar is inadequate with an average score of 57.03. b) Learning outcome of Textile Knowledge of students taught using memorization model is deemed decent with an average score of 71.48. c) There is a significant effect of memorization learning model on Textile Knowledge learning outcome at vocational high School (SMK) Negeri 3 Pematangsiantar. Therefore, it can be concluded that learning outcome using memorization learning model is better than the outcome using conventional learning model.

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