

## THE EFFECT OF LEARNING MOTIVATION ON STUDENT'S PRODUCTIVE COMPETENCIES IN VOCATIONAL HIGH SCHOOL, WEST SUMATRA

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### ABSTRACT

*This study aimed to reveal the achievement level of (1) learning motivation of vocational high school students, (2) the productive competencies of vocational high school students, and (3) the effect of learning motivation on productive competencies of West Sumatra vocational high school students. The study used is the descriptive quantitative method. The number of population was 2929 students. The sample, consisting of 160 students, was taken by using the multistage random sampling technique. The data, collected using a questionnaire and documentation, were analyzed using the descriptive and inferential analyses. The study found that: (1) the learning motivation of vocational high school students was in good category, (2) productive competencies of students were in the good category, (3) there was a positive and significant influence of the learning motivation on the productive competencies of West Sumatra vocational high school students by 11.5 %, and (4) This means that the new policy of vocational education should be taken by local government to learning process in improving the productive competencies of vocational students in West Sumatera region.*

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**Keywords:** Learning motivation, Productive competencies, Vocational high school, Students.

### Contribution/ Originality

The paper's primary contribution is finding that learning motivation influence students productive competencies.

### 1. INTRODUCTION

(Undang-Undang Nomor 20 Tahun, 2003) on National Education System Article 3 states: "The National Education aims to develop skills and form the character and civilization of the nation's dignity in order to achieve the nation, aimed at developing the potential of students to become a

man of faith and fear of God Almighty , noble, healthy, knowledgeable, skilled, creative, independent and become citizens of a democratic and accountable ". Furthermore, Article 15 states that vocational education is secondary education that prepares students primarily for work in a particular field.

This formula became the basis for enhancing the vocational students' motivation. Increased motivation to learn is not solely dependent on educators, facilities, infrastructures of education, but rather an active role in teaching students determine the success of competency achievement. Students who are highly motivated will tend to have high personal responsibility, willing to take risks, have a plan of study, to be serious, diligent, active in learning, do not feel complacent, always trying to learn the best results. *Man jadda wajada (وَجَدَ جَدًّا مَنْ)*. " Anyone who really meant it will be succesfull " (Fuadi, 2009). Q.S. Ar -Ra'd verse 11 which means that Allah will not change the fate of someone (people) if they do not change, in accordance with the existing potential in him (Surin, 1991). This verse commands mankind to earnestly learn that there is a change towards the better in society, nation and state.

## 2. REVIEW OF LITERATURE

Motivation is a complex part of human psychology and behavior that influences how individuals choose to invest their time, how much energy they exert in any given task, how they think and feel about the task, and how long they persist at the task. It reflects in students' choices of learning tasks, in the time and effort they devote to them, in their persistence on learning tasks, in their coping with the obstacles they encounter in the learning process.

There are many experts who have given the definition of motivation. Sardiman (2012) says that motivation can be considered as the overall driving force in students that lead to learning activities. Hikmat (2009) says motivation is the impetus or stimulus given to a person in order to have the will to act. Motivation is very important in determining the activity of learning, because a motivated group will be more successful than those who do not have the motivation (Hamalik, 2002).

Furthermore Nashar (2004) explains the motivation to learn is an internal and external impulse that causes a person (people) to act or do reach the destination, so that changes in her behavior is expected to occur. Hamzah (2011) argues that the nature of motivation to learn is internal and external encouragement to students who are learning to hold a change of behavior. Students' motivation in the learning process can be seen from their behavior in learning, students who have high motivation to learn diligently working on the task, resilient face of adversity, show interest in a variety of problems, prefer to work independently, and not get bored in doing the task.

Learning motivation of students in the education is important. Without learning motivation is not possible. So in education the role of motivation is effective on students learning. Due to motivation students do any task and achieve the goal. Motivation increase speed of work and a person is doing everything to achieve goal. Motivation increases the performance of learning. It provide energy and learner achieve the task because she has a direction and performance of learner is increase, in education of motivation effect on students success. Motivation is a factor of high

or low of the goal (Brown, 2001). Motivation is a significantly important factor for academic learning and achievement across childhood through adolescence (Elliott and Dweck, 2005).

Baron and Donn (2000) explains that students who have the high motivation is indicated by some characters, such as, initiative, deligent and active in learning, not easy to satisfy, punctual and disciplined, always trying to learn with the best result. Motivation is seen as a mental impulse that drives and directs human behaviour, including learning behaviour. Motivation has a willingness to activate, mobilize, channel and direct the attitudes and behaviour of a learner (Dimiyati and Mudjiono, 2006). Furthermore (Sukmadinata, 2003) says motivation is influenced by intrinsic and extrinsic factors. The intrinsic factors, among others, are students' attitude, interests, intelligence; and extrinsic factors are factors beyond the student, such as, environmental factors, among others, family, school, or community environment.

Further motivation to learn, abstracted from Brophy (2004) states that prefer the cognitive response, ie the tendency of students to achieve meaningful and useful academic activities as well as trying to profit from these activities. Students who are motivated to learn will pay attention to lessons delivered, read the material so that they can understand, and use supportive, specific learning strategies.. Students who have the motivation to learn will depend on whether the activity has interesting content or a fun process. To achieve optimal students' competency in productive learning, vocational high school has developed a curriculum that consists of normative, adaptive, and productive subjects. The achievement of competencies is related to the acquisition of skills productively used to meet job competence. Productive competence refers to the Competency Standards and the National Qualification Competence Standard. The mark in productive competency test is taken as the reference to determine the level of mastery of productive competence.

Gonczi (2004) states competence is the capacity to perform special activities will always entail some combination of knowledge skills/disposition/values which when analysis almost always looks like some combination of generic or key competencies. Moreover, Mulyasa (2004) defines competence as the knowledge, skills and abilities controlled by someone who has become part of him, so he can do the behaviours of cognitive, affective and psychomotor as well as possible. Competencies are thus the characteristics of a person that are related to superior performance in a job and can be common across situations (Delamare and Winterton, 2005).

Competencies required of a person to perform a task or job that is based on the knowledge, skills and attitudes appropriate to the performance of work required. Demonstrated the ability to: collect, analyze, and organize information, communicate ideas and information, to plan and organize activities, in collaboration with other people and groups, using mathematical ideas and techniques, solving the problem or problems and using technology. Develop and formulate standards of competence refers to the relevant standard: industrial, corporate and industrial environments (Bargon, 2002).

Jalinus (2002), to formulate standards of competence include: able to demonstrate, apply skills, absorb and apply the concepts, analyze, evaluate information and responsible. Able to demonstrate understanding of science that deals with the theoretical concepts with the deepening of some problems, is able to apply acquired skills appropriately and well. Able to analyze and plan the

method of solving technical or managerial interests, able to absorb and apply theoretical concepts and technical skills based on the creativity of the situation and run a certain scope, able to evaluate the information and use it to make predictions for the purposes of planning and research, are responsible for the results work related to quality parameters and the size and quantity of professional responsibility towards the achievement of group work .

Skills and learning activities include (1) learn to put the equipment to really be able to operate, and (2) learn to use certain equipment and instruments (Ruijters and Utomo, 1991). When viewed in relation to vocational education, the students are doing activities to properly install the instrument can operate a machine is said to have done a productive learning activities. However, to achieve productive skills at an advanced level student must necessarily exercise continuously or repeatedly based on the skills they have learned.

Activities to learn the skills to train the hand to apply the theory through the process of controlling your thoughts and feelings in the form of (1) using basic skills, (2) sketching, drawing, and counting, (3) operate and control, (4) care for, maintain, and (5) repair (Schippers and Djadjang, 1994). In a productive learning activity, students must have learn basic skills that are used to make sketches images, then calculate size of a machine. In addition, it also required the ability to control and care for, maintain, and repair the equipment used. Referring to these skills, students who have learned the practice is expected to be earning an easy to use equipment that requires higher skill

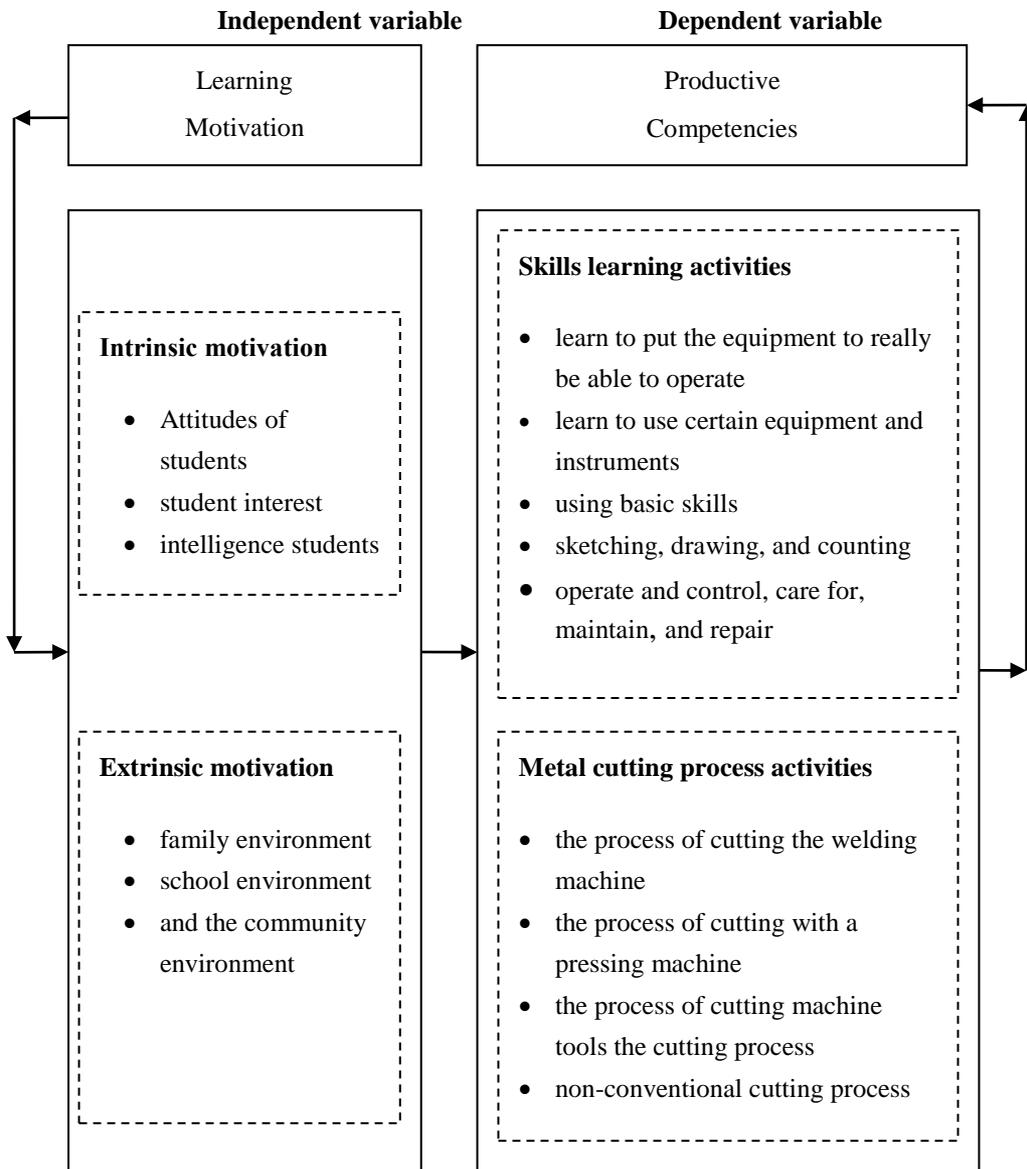
In addition, productive practice in vocational, there are some things that need to be addressed such as tooling machines and metal cutting process. The rapid progress of tooling machines urge all forms of slow hand job, done by machine tools, such as lathes, milling machines, and machining scrap. The process used to change the shape of a product of metal is done by cutting the metal. Metal cutting process according Rochim (1992) grouped into four groups, namely : (1) the process of cutting the welding machine, (2 ) the process of cutting the pressing machine, (3) the process of cutting machine tools, and (4) the cutting process unconventional.

Based on the description that has been stated above, the purposes of this study were to describe: (1) to what extent students' motivation to increase the productive competence of vocational high school in West Sumatra?, (2) to what extent students' productive competence of vocational high school in West Sumatra?, (3) whether there is a significant relationship between learning motivation with productive competence of vocational high school students in West Sumatra?, and (4) whether the contribution can increase on productive competence of vocational high school students in West Sumatra.

### 3. METHODOLOGY

This study uses quantitative descriptive correlation approach, which is a technique designed to determine how much influence the independent variables with the dependent variable. The independent variable is the dependent variable of learning motivation and productive competence of vocational high school students. The independent variable is learning motivation (X). The dependent variable is productive competence (Y). The framework of the study can be seen in Figure 1.

Figure-1. Framework Figure



The study population was all students of vocational high school in West Sumatra class XII, as many as 2929 people. Sampling was done by multistage random sampling technique. The first step, namely the selection of two vocational schools in the cluster, each type based international school (RSBI) and National Standard School (SSN), and was elected to RSBI Vocational high school 1 Bukittinggi to SSN is and Vocational high school 1 Padang. The second step, according to both the vocational high school sample of 160 people taken at random, as many as 80 people from Vocational high school 1 Bukittinggi and 80 people from Vocational high school 1 Padang.

Data collection tool of motivation to learn a questionnaire developed by researchers Likert scale models with the following steps (1) construct the lattice according to the indicators of each variable. (2) preparing the grains statements based indicators of each variable, and (3) test, which tests the validity and reliability testing with a number of respondents as the trial of 30 people.

Validity test is done with the Pearson Product Moment correlation analysis and reliability test using Alhpa Cronbach formula ( $\alpha$ ) = 0.05. In testing the validity, significance level determined Point declaration is valid, if the product moment correlation coefficient or r count is greater than r table, corresponding predetermined significance level. Experimental results show that the reliability coefficient of 0.94. The criteria used to establish the reliability of the instrument is if the reliability coefficient greater than or equal to 0.50 (Gay, 1985).

Data analysis was performed by an analysis of descriptive and inferential. Descriptive analysis was used to describe the score productive learning motivation and competence of vocational high school students in West Sumatra obtained compared with the average score measurements. If the learning motivation scores above the average score of the measurement, it means that the vocational high school student has a good learning motivation. Conversely, if the learning motivation scores below the average score of the measurement, it indicates that learning motivation in the vocational schools is not good. The same things are also done to measure the productive competence.

Furthermore, to measure whether or not significantly influence the motivation to learn the competence of vocational high school students earning analyzed by regression. Requirements that must be met prior to analysis and hypothesis testing, namely, (1) test for normality, and (2) a homogeneous test. For normality testing done with the estimated error and proceed with the Lilliefors test, and for homogeneity of variance test conducted by the Bartlett test.

## 4. RESULTS

### 4.1. Learning Motivation

Based on research data to score the motivation to learn, has a score range of empirical 143 104 with the lowest score and the highest score of 247. From the analysis of the data obtained by the average price of 197.92, standard deviation 21.588, 197.00 median, mode 181, the number of grade 8, and grade 13 as well as the length frequency distribution as shown in Table 1 below:

**Table-1.** Frequency Distribution of Learning Motivation scores

No.	Class Interval	Absolute Frequency	Relative Frequency (%)
1.	234-247	12	7.5
2.	221-233	16	10
3.	208-220	20	12.5
4.	195-207	37	23.13
5.	182-194	35	21.88
6.	169-181	27	16.88
7.	156-168	11	6.88
8.	143-155	2	1.25
	Total	160	100

Based on the calculations shown in Table 1, it appears that most of the students reported having a good motivation in learning. Nevertheless there is still a student has a learning motivation is at the low category.

#### 4.2. Competence Productive

Based on research data for productive competence scores obtained empirical score range 26.70 to 70.70 and the lowest score of the highest scoring 97.40. The results of the analysis of the data showed an average score of 83.53, standard deviation 5.62, median 82.91, 80.00 mode, the amount of class 8 and class length 3.5 and frequency distribution as shown in Table 2 below.

**Table-2.** Frequency Distribution of Productive Competence Scores

No.	Class Interval	Absolute Frequency	Relative Frequency (%)
1.	70,70 - 74,19	3	1,88
2.	74,20 – 77,69	22	13,75
3.	77,70 – 81,19	28	23,75
4.	81,20 – 84,69	30	18,75
5.	84,70 – 88,19	31	19,38
6.	88,20 – 91,69	25	15,62
7.	91.70 – 94,19	7	4,38
8.	94,20 – 97,70	4	2,50
Total		160	100

Based on Table 2, it can be seen that that most students good acquire productive competence. Nevertheless, there is still a small fraction of students needs to be improved their productive competence.

Furthermore, based on the results of a simple linear regression analysis on pairs of data between learning motivation variable (X) to the productive competence (Y), it produces direction of the regression coefficient b of 0.088 and a constant of 66.070. Thus, the shape of the influence of these two variables can be expressed by the regression equation  $Y = 66.070 + 0.088 X$ . Before being used for predictive purposes, the regression equation is linear and must be eligible means. To determine the degree of significance, the regression equation F-test is then performed as in Table 3 below:

**Table-3.** ANOVA for Linearity Test Significance and Simple Linear Regression

Source of variation	df	JK	RJK	F test	t-table $\alpha=0,05$	t-table $\alpha=0,01$
Total (T)	160	1121623	-	-		
regression (a)	1	1116600,65	-	-		
regression (b/a)	1	577,275	577,275	20,475**	3,92	6,81
rest	158	4454,78	28,195	-		
unsuitable	64	2794,45	25,943	0,873 <sup>ns</sup>	1,34	1,82
error	94	1660,328	29,728			

Description: df=degrees of freedom

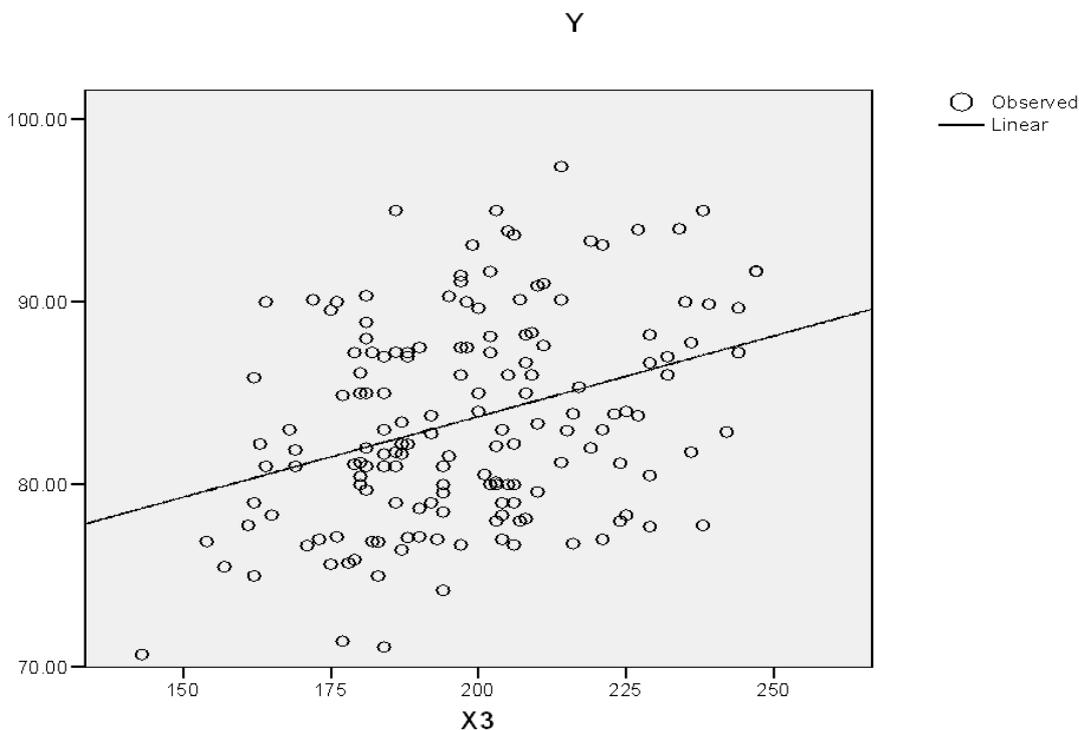
JK= sum of squares

RJK = average number of squares

regression\*\* highly significant (F value =20.475> F =6.81)

ns=non-significant, significant linear regression(F value =0.873<F table =1.34)

Figure-2. Model effects of learning motivation (X) to productive competence (Y)



Correlation analysis on data pairs of the two variables Product moment correlation coefficient for  $r_y = 0.339$ . To test the significance of the correlation coefficients are presented in Table 4 this follows.

Table-4. Testing the significance of correlation coefficients motivation to learn the competence of productive

Correlation Between X and Y	Coefficient of Correlation	Coefficient of Determination	t-test	t-table $\alpha=0.05$	t-table $\alpha=0.01$
X and Y	0,339	0,115	4,525**	1,65	2,33

Description: \*\*highly significant correlation coefficient (t-test=4.525>t table=2.33)

## 5. DISCUSSION

Based on the analysis it was found that the learning motivation give positive and significant effect on the productive competence. Thus the motivation to learn is one of the important variables that should be considered to improve the productive competence. This finding is in line with the results of the study conducted by Mappeasse (2009) that concluded that students' motivation and meaningful positive effect on learning outcomes of students in grade III PLC Department of Electrical Vocational high school 5 Makassar. This finding is also consistent with the results of research conducted by Hamdu and Agustina (2011) who concluded that the motivation to learn and the learning achievement of students have a significant effect. Students who learn with high motivation are expected to achieve high productive competence. It means that the higher the students' motivation, the higher the productive competence is achieved.

The understanding of learners' motivation is the key for competencies success full. However, we know little about the motivational beliefs and learning strategies of education learners. We do know that within traditional settings, students' ability to sustain or increase their willingness to engage in and complete academic activities has been viewed as important for understanding learning and performance (Wolters, 1999). Studies on motivation and learning strategies also have shown that students' motivational beliefs and learning strategies are related to involvement in learning (Pintrich and Schunk, 2002).

Enhancing the competence of productive effort must be conditioned by school students through increased student motivation, means vocational high school life should reflect the values and norms that establish productive competence. For example: (1) similar to the same school discipline to discipline working in the industry, and the students always come home from school on schedule specified, (2) hours of work similar to the same school with working hours in the industry, students are less hours of study must be met at the time another, (3) a workshop / laboratory similar to the same school with workshops in the industry, always clean, the machines are always ready to be operated and maintained properly, the tools and equipment well ordered, and (4) clothing together with clothing similar practicum employment in the industry, each learning practices, students are always dressing up and pay attention to work safety practices.

This finding is in line with Sardiman (2012), Hamzah (2011), Hikmat (2009), and Nashar (2004) who say that motivation can be considered as the overall driving force, both internal and external encouragement to students who are learning to hold a change behaviour. Motivation as one of internal factors can only be activated by the students themselves, but the stimulus can be started from the outside that usually originates from the teacher or the environment, both inside and outside of school. Therefore, teachers, staff, parents and the community need to encourage, foster students' motivation in learning either through attitudes, the performance itself, give a good learning environment, as well as methods and strategies through good teaching, so that students are motivated to learn more which in turn can love what he learned.

Some strategies that teachers can do to improve the learning motivation, among others, (1) create a new atmosphere in learning, by making changes to the previous state, (2) gives an emotional touch not just deliver the learning materials only, (3) provide an opportunity to learn more about the things that interested him, (4) make foreign things become ordinary and making ordinary things into something extraordinary, and (5) guiding students to investigate their own so that they can gain experience which can provide understanding durable, and able to resolve the problem.

In addition, in the students' learning process should be assisted so that they are sincerely interested and learn, and be able to appreciate and understand phenomena in the environment. Everything that can not be achieved if the teaching conveyed only verbally alone, but students should be encouraged to see, experience and learn a particular object in more detail, so it can find its own linkage concepts and principles contained therein. In order for the condition to manifest and be motivating to students wanted to try to find and learn on their own. Therefore, teachers need to provide opportunities to students to plan what to do, make decisions, make mistakes, and let them decide for themselves how to fix the error, and the feeling of satisfaction in achieving success.

## 6. CONCLUSION

Based on the results and discussion, summarized as follows: (1) overall student motivation, either intrinsic or extrinsic Vocational High School in West Sumatra in the category of good, (2) Competence productive learners, such as skills and learning activities in the metal cutting process Vocational High School in West Sumatra are in either category, (3) There is a positive influence motivation to learn the competence of students earning SMK West Sumatra. This means that if the motivation to learn increased, the tendency of students to increase productive competence. The analysis showed the coefficient of determination of 0.115. This means that 11.5 % of variance explained by the variable productive competence motivation to learn, and (4) This means that the new policy of vocational education should be taken by local government to learning process in improving the productive competencies of vocational students in West Sumatera region.

## 7. SUGGESTION

Along with the conclusion, the researcher also suggest that: (1) vocational high school students need to improve their confidence, that people who have high willingness will achieve success, (2) vocational schools need to establish programs that provide learning opportunities to the students to achieve competence in the three domains of the curriculum, (3) learning in vocational schools is not simply transfer curriculum content or teaching materials to students, but to apply all courses in their daily lives, so that competence is what allows students to be capable of acting well within life in the community, and (4) vocational schools need to enhance the learning experience as an important element of competency that is formed from the integration of knowledge, skills, and values (attitudes) contained in each subject productive.

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