

Effect of Experiential Collaborative and Self-Efficacy on Technical Skills for Vocational School Student

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Abstract— **Experiential Collaborative provides opportunities for students to learn more actively to work together in groups in order to achieve a goal. Self-efficacy reflects the level of confidence in executing certain tasks. The purpose of this research is to see the impact of group cooperative and self-efficacy on the technical skill, efficacy in this study include self-efficacy academic, social and emotional in which adaptation of instruments were developed [7] consisting 24 items with the lowest score of 24 and the highest score of 120 for categories of high self-efficacy and low self-efficacy. The subjects of this study were students of SMK Negeri 2 Kupang, class X with 40 students. Method in this research is quasi experimental with non-equivalent control group design. Technique for data analyze is Analysis of Variance. From Levene's Test of Equality of Error Variances shows that significant value is 0,892 and Tests of Between-Subjects Effects the value of significant is 0,994. From this result it shows the effect between experiential collaborative and self-efficacy on technical skills is significant.**

Keywords—*experiential collaborative, self-efficacy, technical skills*

I. INTRODUCTION

Vocational High School (SMK) as one of the skills-based formal vocational education in place can produce graduates who have the skills needed by the world of work. According to the data of Reviews of National Policies for Education [1] shows the development of labor that is not in line with the demand of the labor market.

To improve technical skills, cooperation is one part of the development of living habits and as one of the media for learners to learn actively. The Ministry of Education and Culture formulates that the 21st century learning paradigm one of which is cooperation and collaboration in solving problems [2]. Therefore, based on the demands of education in the 21st century, then one of the required characteristics of the vocational graduates who are ready to work is to have teamwork skills. To meet this demand, the development of this cooperation needs to be started at the level of the classroom environment.

The low level of student participation in the learning process can be attributed to various factors. Bandura in his study revealed that there is a factor called self-efficacy that refers to "one's beliefs about his or her ability to learn or

perform actions at prescribed levels" [3]. Based on personal self-efficacy, a person can plan and execute actions that lead to the achievement of a particular goal according to the given judgment towards the self-ability. In other words, in performing a particular task, self-efficacy is a self-assurance belief with respect to one's competence for getting success, so that Bandura's self-efficacy is "the key factor of human resource for what people think, believe and feel that affects how they act ". Self-efficacy also affects one's actions, how much effort they take, how long they will be persistent facing obstacles and failures. According to [6], behavior can be predicted by forecasting the perceived self-efficacy of a person. Pajares further revealed that specific self-efficacy tends to occur in certain fields of study or skill. It is also said that various setting achievements that cause diverse effects caused by self-efficacy.

This study will examine the relationship of self efficacy with the results of learning technical skills. Self-efficacy in this study was adapted from the instrument developed [7] that consists 24 items of questions covering 8 items of academic efficacy questions, 8 items of social efficacy questions, 8 items of emotional efficacy questions. While the results of learning technical skills that will be seen related to self-efficacy is the value of practice obtained by students of class X Audio Technique (TAV).

Most of the findings about a positive relationship between concrete experience and abstract learning are attributed to [8], the author of Experience and Education. Dewey understands that experience is not similar to learning. Action and thought must be connected. Since 1916, he has argued that "Thinking ... is a deliberate attempt to find the specific relationship between something we do and the consequences it produces, so that both become sustainable". Based on Dewey's argument, a developed learning process helps many learners to raise the meaning of the learning process by reviewing, processing, or mining. Regardless of its terminology, the basic idea is that an experience can lead to learning and even cause change. Referring to [9], the authors of The Power of Experiential Learning, "Experience may underlie all learning but it does not always lead to learning. We must engage with experience and reflect on what happened, how and why it happened. "[10] author of the classical text, Experiential Learning, sums up this concept with famous words,"

Learning is the process by which knowledge is created through the transformation of experience. "Extreme learning uses a wide range of methodologies such as: assignments, field experiences, action learning projects, creative games, role playing, games, simulations, visualization, storytelling, improvisation, adventure activities. In the process of learning and building interactions with other learners, things to note are: creating openness, promoting understanding, weighing new attitudes and behaviors, experimenting and support.

Experiential learning is developed on the basis that learners after completing the learning process have understanding, caution and application. Where the expected learners need to process more than just facts and concepts to be motivated to learn effectively, to identify what needs to be done, to be skilled in it, and to use it consistently, then the learners must experience it. Effective education is both abstract and concrete. Jean Piaget, a developmental psychologist, teaches children to learn concretely, but they become able to think abstractly as they enter adolescence and adulthood. Unfortunately many learners state that this change in mental capacity can make concrete learning experiences be restricted. On the contrary learning with direct experience should last throughout the life span of a person. For example, learners will understand management concepts in a learning project in the best way if they actually manage the learning project.

Self-efficacy reflects a person's level of trust in fulfilling a particular task. According to [3] self-efficacy is a judgment of a person for his ability to plan and execute actions that lead to the achievement of a particular goal. In other words, the level of self-efficacy is a self-assessment belief with regard to one's competence to succeed in the task.

The self-efficacy belief also affects one's actions, how much effort they make, how long they will be persistent in facing obstacles and failures. According to Pajares (2002), behavior can be predicted by predicting the perceived self-efficacy of a person.

Self-efficacy constructs represent one core aspect of Bandura's social cognitive theory [3,4,5]. Social cognitive theorists consider that the level of self-efficacy is a key variable that influences learning self-regulation [11]. In support of this assumption, the self-efficacy perception of learners is found to be related to two key aspects of reciprocal loop on proposed feedback, i.e. the use of learning strategies and self-monitoring.

Self-efficacy as an Indicator of Successful Learning Self efficacy in some studies suggests a correlation with academic achievement [6]. Students who have low self-efficacy for learning may avoid tasks, while learners who value high self-esteem are more likely to be excited about the task [11]. From this it can be concluded that learners who observe their success and relate it to their own abilities, their self-efficacy increases. While when they believe that they are less able, and they feel unable to achieve their own abilities, they may not be motivated to learn harder. The self-efficacy belief can influence the individual to successfully perform the behavior necessary to obtain the desired result, [12]. When humans have a strong sense of self-efficacy, they will go forward to take greater effort to fulfill or accomplish tasks and dispel the obstacles they face

than those who have a weak feeling of their own efficacy. [13], Thus learners who have higher self-efficacy will have higher intentions as well and are more likely to keep performing tasks, despite facing obstacles from the outside. [14].

II. METHOD

The purpose of this study is to see the relationship or correlation between self-efficacy with the results of students' technical skills learning using method experiential collaborative at SMK class XI Audio Video Technique through treatment in the form of performance in the form of collaboration. Students are given a number of work guides related subjects to be conducted in the form of practice. The hypothesis built in this research is a positive relationship between self-efficacy with students' technical skills learning outcomes. The subjects of this study were students of SMK Negeri 2 Kupang class XI consisting of 40 people.

The instrument used in this study is Self-Efficacy Questionnaire for Children (SEQ-C) developed by [7]. This instrument was developed based on self-efficacy developed by Bandura under the name Assessment of self efficacy in children and adolescents. The SEQ-C instrument examines three aspects: Academic Self Efficacy (ASE), which focuses on perceptions of ability to manage learning attitudes, mastery of materials and complete academic tasks, Social Self Efficacy (SSE) focuses on the perception of children's ability to connect with peers and Emotional Self-Efficacy (ESE) deals with perceptions of ability to cope with negative emotions. Muris tested this instrument on 330 children from public schools aged 14 to 17 years. Reliability for this instrument by looking at Alpha Cronbach for ASE 88, for SSE 85 and for ESE 86. The instrument consists of 24 items with 8 items each for ASE, SSE and ESE. Each answer is given a score of 1 (not good at all) to 5 (very good)

Method in this research is quasi experimental with non-equivalent control group design. Technique for data analyze is Analysis of Variance.

III. RESULT AND DISCUSSION

Prior to testing the correlation first tested the validity and reliability of the data. From the test results obtained, 24 items were all valid with the reliability of data according to Cronbach's Alpha 0.860 greater than the standard significance of 0.05 as shown in table I.

TABLE I. RELIABILITY STATISTICS OF SELF-EFFICACY

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.852	.853	24

Among 40 students of SMK Negeri 2 Kupang enrolled in Audio Technique Video class, there were 17 students who had high self-efficacy and 23 students who had low self-efficacy shown in table II.

TABLE II. BETWEEN-SUBJECTS FACTORS

		N
Experiential collaborative	1	40
Self-Efficacy	1	17
	2	23

Table III shows the mean value between experiential collaborative and self-efficacy (high and low).

TABLE III. DESCRIPTIVE STATISTICS

Dependent Variable: Technical Skills				
Experiential Collaborative	Self-Efficacy	Mean	Std. Deviation	N
1	1	81.76	6.769	17
	2	81.78	6.987	23
	Total	81.78	6.807	40
Total	1	81.76	6.769	17
	2	81.78	6.987	23
	Total	81.78	6.807	40

If the number of significance was reviewed using Levene's Test for technical skills, then for the learning result of Technical Skill was 0.892. The numbers were in positions greater than 0.05 indicating that the variance matrix in both variables is individually homogeneous for both experiential learning and self-efficacy learning strategies. The result of calculation on Leven "s Test can be seen in table IV.

TABLE IV. LEVENE'S TEST OF EQUALITY OF ERROR VARIANCES ^

Dependent Variable: Technical Skills			
F	df1	df2	Sig.
.019	1	38	.892

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Learning Strategy + Self Efficacy + Learning Strategy * Self Efficacy

Next to the prerequisite test was to know the value of data normality. Table V shows the test results by using Kolmogorov Smirnov obtained value of 0.200 significance greater than 0.05 indicating that the data is normally distributed.

TABLE V. TESTS OF NORMALITY

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Experiential collaborative	.083	40	.200*	.967	40	.291

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

To test the hypothesis proposed in this study, the analysis of the variance of variables studied both independent variables of experiential collaborative learning strategy and self-efficacy, and technical skills. From the results of hypothesis testing, the significant value was 0.994 which indicated that there was an influence between experiential collaborative and self-efficacy against the results of learning technical skills.

From the results of hypothesis testing with significance value 0.994 could be said there were differences in technical

skills of students who had high self-efficacy with those with low self-efficacy. Moreover it could be said that there was an interaction between learning strategies and self-efficacy of students to technical skills.

TABLE VI. TESTS OF BETWEEN-SUBJECTS EFFECTS

Dependent Variable: Technical Skills					
Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	.003 ^a	1	.003	.000	.994
Intercept	261459.003	1	261459.003	5498.393	.000
Experiential Collaborative	.000	0	.	.	.
Self-Efficacy	.003	1	.003	.000	.994
Experiential Collaborative * Self Efficacy	.000	0	.	.	.
Error	1806.972	38	47.552		
Total	269293.000	40			
Corrected Total	1806.975	39			

a. R Squared = .000 (Adjusted R Squared = -.026)

IV. CONCLUSION

Based on the results of the study, it can be concluded that if experiential learning approach is correlated with the result of learning technical skills. The experiential learning commitment closely relates to learning outcomes and is able to encourage the ability of cooperation in science education. Experiential learning based on commitment and relationships has better correlation than experiential learning behavior in enhancing learning outcomes. In this case, it can be said that self-efficacy is only able to contribute 0.3% while 99.7% is contributed by the application of experiential collaborative. From Levene's Test of Equality of Error Variances, result shows that the significant value is 0,892 while the significant value obtained from Tests of Between-Subjects Effects is 0,994. That is, it shows the significant relation between experiential collaborative and self-efficacy on technical skills.

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