Wulan Lokahita

by Lokahita Wulan

Application of Goal Setting to Increase Self Efficacy in Vocational Students: A Non Randomized Control Trial Approach

Wulan Dyah Lokahitta[1]
Muhammadiyah University of Sidoarjo
Wulandyahlokahitta2609@gmail.com

Ghozali Rusyid Affandi[2]
Muhammadiyah University of Sidoarjo
ghozali@umsida.ac.id

Abstract

Self efficacy plays a very important role in learning activities. Self efficacy will courage students to enjoy learning activities and maintain their attention on various tasks. One factor that is considered important in increasing self-efficacy is the existence of goal setting. This quasi-experimental study aims to obtain information on the application of goal setting in increasing self-efficacy. The subjects of this study involved 82 students who were divided into 2 groups, namely 41 treatment groups and 41 control groups. This type of research uses a non-randomized control trial method with a pretest posttest control group design. The data collection technique used the adaptation scale of the self-efficacy questionnaire for children (SEQ-C) with a reliability of 0.88. The collected data was analyzed using the Independent Samples T-Test and Paired Samples T-Test. The results of this study inform that the application of goal setting has an impact on students' self-efficacy. So it can be seen that the treat group showed higher results compared to the control group.

Keyword

Self-Efficacy, Goal Setting, Non-randomized Control Trial

INTRODUCTION

Learning is an important key in education carried out by each individual as a form of effort to achieve goals (Winata, 2021). Learning outcomes are an indicator of success in education (Pratiwi, 2022). However, many things can affect students' learning patterns at school both from within and outside, which can affect from within, including psychological factors such as self-efficacy (Ferdyansyah et al., 2020). Self-efficacy factors can influence task selection, effort, and seriousness in learning, and determine how a person can feel, behave and motivate themselves according to their abilities (Patras et al., 2021). In the field of education, student academic achievement, which is reflected in learning outcomes and achievements, is influenced by self-efficacy (Honicke & Broadbent, 2016). Self Efficacy plays a very important role in learning activities (Oktariani, 2018). Self efficacy will encourage students to enjoy learning activities and maintain their attention on various tasks (Sunawan et al., 2017). So that self efficacy in students can affect the achievement of academic achievement (Putri et al., 2022).

Self efficacy is a person's belief about how much ability he has to complete a task, and the desired action to achieve maximum results (Bandura et al., 1999). Self efficacy

refers to the belief that a person can learn or perform an action at a specified time (Schunk & DiBenedetto, 2021). There are several aspects of self efficacy, namely the aspect of the level of difficulty of the task or the level dimension (magnitude), the breadth of the field of behavior or the dimension of generalization (generality), and the aspect of belief or the dimension of strength (strength) (Lianto, 2019). Self efficacy contains three factors that cover three domains, namely academic, social, and emotional (Muris, 2001). Students with good self-efficacy will succeed in achieving their learning activities, while students with low self-efficacy will quickly give up in the learning process so that the results obtained will not be maximized (Ningsih & Hayati, 2020). This is because students with high self efficacy are better able to increase their learning motivation than students with low self efficacy (Manuaba & Susilawati, 2019).

Previous research shows that students' self-efficacy is found to tend to be low or decreasing (Kurniawan & Affandi, 2022). This is also reinforced by primary data that researchers obtained from interviews with counseling teachers at SMK schools who explained that:

> "The picture of students' self efficacy is different, depending on the students themselves. The picture of self efficacy here is shown in the form of behavior such as tends to be during lessons when asked students are only silent and only look right and left, when told to show the results of their work they are still hesitant and embarrassed to show it, students also rarely ask the teacher or ask for help when they get difficulties they prefer to cheat than ask, students give up easily, and rarely dare to express their opinions when there is something except those who have positions in the class organization structure ".

This can then affect student learning so that they show low self-efficacy because they do not believe in their abilities.

Based on the description above, it can be concluded that the importance of self efficacy in students to encourage learning activities as a form of fulfilling academic responsibilities. One of the factors that is considered important in increasing self-efficacy is goal setting (Mawarni et al., 2022). Goal setting is a cognitive theory with the premise that everyone has a desire to achieve the expected goals (Liana et al., 2022). Goal setting affects the learning process by directing attention and action, mobilizing effort, increasing work duration, and encouraging individuals to develop appropriate strategies to achieve goals (Setiawan, 2017). Setting clear goals can help individuals take directed action to achieve optimal goals (Ramadhani et al., 2021). Goal setting can also be a driver or motivation to increase the effort of each individual (Bantam & Syah, 2022).

Some researchers have used various kinds of training to improve self efficacy. In line with this information, research that applies goal setting to improve self-efficacy with a non-randomized control trial method is still rarely used. This kind of research needs to be done because it can provide information about how goal setting can increase self efficacy (Liana et al., 2022). In addition, training is carried out to become the basis for development research in increasing self-efficacy, so that students can believe in their abilities. The purpose of this training is to analyze the application of goal setting in increasing students' self-efficacy.

Based on the behavior shown by students during the teaching and learning process, it is necessary to apply goal setting which aims to increase self-efficacy in vocational students. It is hoped that after psychoeducation, students will be more confident in their abilities and enthusiasm in the learning process because they already have clearer goals in their learning activities.

METHODS

Research Design

This research is a quantitative approach of quasi-experiment type, which is research that does not randomize to examine the causal relationship (Abraham & Supriyati, 2022). The type of research used is the non-randomized control trial method. The design used in this research is pretest & posttest control group design. According to (Tyasning & Fadhilah, 2020) non randomized pretest and posttest control group is a study conducted with two groups without randomization, one group gets treatment and the other group as a control group, which is then observed before and after.

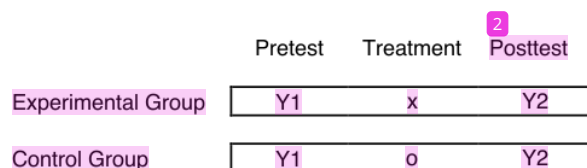|	Pretest	Treatment	Posttest
Experimental Group	Y1	x	Y2
Control Group	Y1	o	Y2

Figure 1. Non-randomized pretest-posttest control group design

Description:
Y1 : Pre-treatment measurement
Y2 : Measurement after treatment
X : Treatment

Research Subject

The subjects in this study were students of SMK X Krian Sidoarjo. The number of subjects involved in this study was 82 students who were divided into two groups. Namely 41 treat groups consisting of 14 men, 27 women and 41 control groups consisting of 15 men, 26 women. Where these two groups are taken from existing classes. The criteria that include subjects are:

Table 1. Subject Criteria

1.	Students pursuing vocational high school (SMK) education
2.	X th grade students majoring in visual communication design (DKV)
3.	Male and female students aged 15-17 years old

Research Instruments

The data collection method used in this study is the self efficacy questionnaire for children (SEQ-C) scale consisting of 24 items with a Cronbach alpha reliability value of 0.88 which has been adapted to Indonesian by (Affandi et al., 2022). The processing time of the self efficacy questionnaire for children (SEQ-C) scale for students is 20 minutes. The instrument used refers to academic, emotional, and social selfefficacy. Structured data collection assessment using self efficacy guidelines in the form of tables. This can be seen in table 2.

Table 2. Self Efficacy Guidelines

Indicator	Sub Indicators	Scoring

Academic Self Efficacy	Cognitive ability to process learning behavior, understand learning materials, and achieve academic expectations.	5 very good 4 good 3 enough 2 little 1 not at all
Emotional Self Efficacy	Ability to deal with negative emotions	5 very good 4 good 3 enough 2 little 1 not at all
Social Self Efficacy	Ability to establish relationships with peers	5 very good 4 good 3 enough 2 little 1 not at all

Stages and Procedures

The stages of the procedure carried out in this research consist of three stages. The first stage is the preparation stage. Where researchers conducted interviews with counseling teachers and determined the subjects used. Here the researcher uses two classes that will get goal setting treatment. The two classes will be used as treatment groups, where each class gets different treatments, namely one treat group and one control group. Then the bk teacher gives directions to all students who are subjects that there will be a series of tests that will be given by the experimenter. Each subject in each group is given a self efficacy scale as a pretest activity.

Furthermore, the second stage is the implementation stage. At this stage the experimenter provides goal setting training to the treatment group. The experimenter gives nine statements to students to be filled in according to each individual, the experimenter gives verbal instructions regarding the goal setting stimulus in the answers of each individual. Furthermore, the experimenter provides goal setting material to make your smart goal, strengthen your belief, and get you success.

And the third stage is the closing stage. Where each subject in each group is given a self efficacy scale as a posttest activity. Then analyze the results of pretest and posttest activities that have been carried out by research subjects. The following is the schedule for conducting the experiment:

Table 3. Schedule of Research Activities

Sessions	Details
Baseline	Interview with counseling teacher about self efficacy Determine the subjects used.
Pretest	Each subject in each group was given a self efficacy scale.
Experiment	Provide goal setting training to the treat group, regarding: First, set a smart goal

	Second, strengthening the belief	
	Third, getting success	
Posttest	Each subject in each group was given a self efficacy scale.	
Analysis	Analyzing the results of pretest and posttest activities.	

Data Analysis

The data analysis method used in this study is the Independent Samples T-Test and Paired Samples T-Test Analysis Test contained in the JASP 0.16 program. Where the Independent Samples T-Test Analysis Test is used to determine whether there is a statistical difference between the means of the treat and control groups. While Paired Samples T-Test is used to compare pretest and posttest between two groups.

RESULTS AND DISCUSSION

Research Results

1. **Self Efficacy Normality Test**
   a. **Control and treat group**

Table 4. Test of Normality (Shapiro-Wilk)

		W	**p**
Self Efficacy	Control	0.959	0.143
	Treat	0.951	0.075

Note. JASP analysis result.

The normality test results as shown in table 4 using the independent samples t-test technique (shapiro-wilk) on the distribution of self efficacy variables for the control group obtained W of 0.959 and p = 0.143 (> 0.05). While in the treat group obtained W of 0.951 and p = 0.075 (> 0.05). The procedure used to determine the normality of the data distribution is if p> 0.05 then the distribution is said to be normal. The results of the analysis on this data show that the self efficacy variable is normally distributed (p> 0.05).

   b. **Pretest and posttest of the treat group**

Table 5. Test of Normality (Shapiro-Wilk)

		W	p
Pretest	- Posttest	0.974	0.097

Note. JASP analysis result.

The normality test results as shown in table 5 using the paired samples t-test (shapirowilk) technique on the pretest and posttest of the treatment group obtained a significance result of 0.097. This means that the normality test is said to be normal, because the results of the analysis on this data show that the self efficacy variable is normally distributed (p > 0.05).

2. **Self Efficacy Homogeneity Test**

Table 5. Test of Equality of Variances (Levene's)

	F	df	P
Self Efficacy	0.139	1	0.711

The homogeneity test as in table 6 of the variables in this study using Levene's test of equality of variances technique shows that the self efficacy variable obtained Flevens value = 0.139 with p = 0.711 (p> 0.05). to determine the homogeneity of the two groups on the self efficacy variable, the procedure used if p> 0.05 the distribution is said to be homogeneous, but if p < 0.05 then the distribution is said to be homogeneous. In accordance with the procedures that have been used, the results in this study indicate that the self efficacy variable is homogeneous.

3. **Self Efficacy Hypothesis Test**
   a. **Control and treat group**

Table 6. Independent Samples T-Test

	t	df	p	Mean Difference	SE Difference	Cohen's d
Self Efficacy	-8.066	80	< .001	-14.195	1.76	-1.781

Note. JASP Analysis Result.

As in table 7 both groups show that there is a statistically significant difference between the two groups (p<0.05). Meaning that ha is accepted. And cohen's d shows a large effect size of applying goal setting on increasing self-efficacay.

b. **Pretest and posttest of the treat group**

Table 8. Paired Samples T-Test

Measure 1	Measure 2	t	df	p	Mean Difference	SE Difference	Cohen's d
Pretest	Posttest	-7.831	81	< .001	-7.817	0.998	-0.865

Note. JASP Analysis Result.

As in table 8, the results of the paired sample t test show that there is a significant difference in self-efficacy before goal setting training and after goal setting training with a mean difference of -7.817 (mean difference), t score = -7.831 and p = 0.001. <0.05. cohen's d value shows a large effect of 0.865 which means there is a difference between before and after training.
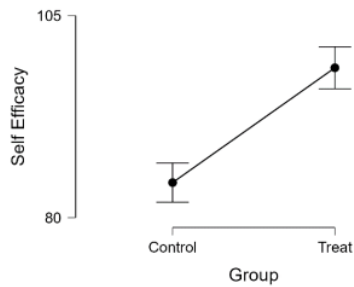
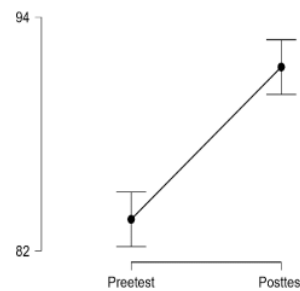Figure 2. Difference between Control & Treat Figure

Figure 3. Difference Between Pretest & Posttest on Treat Group

As from figure 2 above, it can be seen that the treat group has higher self efficacy than the control group. This is shown from figure 3 that there is an increase in self efficacy after the goal setting training program is implemented.

Discussion

The results of data analysis show that the application of goal setting has an impact on student self efficacy. From the results shown, there is an increase in self efficacy after treatment. The application of this goal setting leads to concrete and specific goals that can be achieved, contains strategies for success, and is time-bound (Ramadhani et al., 2021). The purpose of this application is to help take concrete steps to achieve small goals cumulatively into the most important goals and help individuals direct all available resources to predetermined goals and organize goals smartly so that goals can feel important to achieve (Ogbeiwi, 2017).

This is in line with the results of research conducted by (Liana et al., 2022) which shows that goal setting has a significant effect on increasing self-efficacy. Other research such as (Pratiningsih & Sahrah, 2016) also shows that goal setting has a significant effect on self-efficacy before and after receiving goal setting training. In line with (Bloom, 2013) states that several studies have shown a significant relationship between goal setting and positive student outcomes, such as higher grade point averages, increased self confidence, and a greater sense of self. Furthermore (Fauzia & Kurniawati, 2020) stated that goal setting is an important skill that students must have so that they can achieve academic success..

The goal setting application training organized can be an effort to provide students with an understanding of the importance of setting goals (Ramadhani et al., 2021). The purpose of the training is also clear, namely that students will understand what they want to achieve, what needs to be done to achieve these goals and believe in their abilities, and motivate themselves to commit to achieving them, so that with this all student activities become more directed (Setiawan, 2017). Setting goals will also increase the development of new strategies (Yudhistira et al., 2020). In addition, when students already have clear and specific goals, they will be more focused on their goals and when faced with choices, they will be able to confidently determine which path to choose to achieve their goals (Santosa & Himam, 2014).

The limitations in this study are first, the subjects used were not randomly selected but used students who were already in the class. Second, in providing the material is good enough but there are limitations to the time used. And the third, has not been able to condition the subject properly in every activity carried out..

CONCLUSIONS AND SUGGESTIONS

The report on the study concluded that there was a significant difference between students' self efficacy before and after the application of goal setting was carried out. The results of this study show differences in the level of student self efficacy between the treat group and the control group. So it can be seen that the treat group shows higher results than the control group. For future researchers, it is recommended that when conducting research related to goal setting training use subjects with random selection and prepare a longer and more intensive time during training. So that training activities can run smoothly, conducive and produce what is desired, especially beneficial for students. So that training activities not only provide changes in the scope of knowledge and skills but also for behavior in the longer term. Then use different subjects such as clinical subjects. The implication for schools is that goal setting can be used as a form of treatment to increase self-efficacy in students.

ACKNOWLEDGEMENT

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