# The Effectiveness of Modelling Techniques in Improving Self-Efficacy of College Students

Fiqih Maisaroh*
State University of Yogyakarta
Jl. Colombo No. 1 Karang Malang, Catur Tunggal Depok, Sleman D.I. Yogyakarta


Muh. Farozin
State University of Yogyakarta
Jl. Colombo No. 1 Karang Malang, Catur Tunggal Depok, Sleman D.I. Yogyakarta

**Abstract**
Higher education is greatly oriented on academic and practical aspect of knowledge. Somehow, college students are supposed to eligible and excellent in their knowledge competency, performance, and their confidence, particularly their self-efficacy. It is expected to maximize their learning and themselves to be a qualified graduates. This research aimed to discover the effectiveness of modelling technique to increase self-efficacy in college students of Ahmad Dahlan University boarding school. It used quantitative approach with quasi experiment using non-equivalent pretest-posttest control group design. The research was college students of Ahmad Dahlan University boarding school, amounting to 129 students. The sampling technique in this study used purposive sampling. The criteria for the studied sample in this study was college students of Ahmad Dahlan University boarding school with low self-efficacy. To collect data, this research used self-efficacy scale. The data was then analyzed by using non-parametric statistics with the Wilcoxon Signed Rank Test. The results showed that there were differences in the results of the experimental group's self-efficacy before and after the treatment was given (sign = 0.018<0.05). These results implied that modelling technique was effective to increase self-efficacy college students of Ahmad Dahlan University boarding school.
**Keywords:** modelling technique, self-efficacy, quasi experiment, higher education

## 1. Introduction

Adulthood is one phase in an individual's life span after adolescence. College students are in the early adulthood category (around age 18/20 years). At this time, it shows the early phases of life that begin to face various struggles, creativity, challenges, self-changes, and problems that will be faced by every individual (Yusuf & Nani, 2013). First year students will face the challenge of adjustment. They often find that the package of learning and teaching methods is different from those obtained from the secondary school level. Generally, learning in college has more challenge than in high school. It provides more reading assignments, preparing articles and examination of articles through class presentations and quizzes to evaluate achieved competence. Lecturers expect them to do more work outside the classroom. In order to survive, they must take responsibility for their actions. This condition can lead them to emotional tension. In some cases, college students can use various kinds of assistance to solve the pressures of life and duties, such as smoking and alcohol consumption (Samuel, 2011). This evidence should have been denied consistently.

Furthermore, to meet the demands of learning process, students can experience problems. One of the problems that can hinder students from meeting demands in learning is the low confidence of students in their ability to meet the demands in learning. Confidence in the ability to meet the demands is called by self-efficacy (Herdian & Yendi, 2019). On the other hand, confidence can lead and encourage students to consistently perform the activities they believe to improvise themselves. One of aspects to stimulate confidence is self-efficacy.

Self-efficacy is a person's belief that he will be able to carry out the behavior needed to complete a task based on his ability can be felt will lead him to think steadily and effectively (Williams & Rhodes, 2016). Self-efficacy comes from the differences in a person in a behavior to achieve the desired goals. If it does not arise from within the individual, then what is not desired is not achieved. Therefore, it is important for students to improve their low self-efficacy (Sari & Noviandari, 2018).

According to Bandura, psychological procedures change behavior in part by creating and strengthening perceived self-efficacy, which refers to judgments of one's performance capabilities in a given domain of activity. Self-efficacy can influence choice of activities, effort expended, persistence, and task accomplishments. Efficacy information is conveyed through actual performances, vicarious (observational) experiences, forms of persuasion, and physiological indexes (e.g., heart rate) (Schunk & Hanson, 1985). Bandura (1982) found that students with high self-efficacy are able to complete a complex task. By having high self-efficacy, students also have a strong belief to always be able to face all the changes and responsibilities they have in dealing with periods of

development in their lives.

The formation of self-efficacy in students is inseparable from the influence that accompanies it (Sari & Noviandari, 2018). It is clear that Bandura's view of self-efficacy relates to the explication of self-efficacy in specific domains, rather than a global sense of competence. In this study, the operational definition of self-efficacy is refers to the global view of one's coping abilities in a wide variety of situations and global person's belief in his or her ability to organize and execute the courses of action required to achieve specific goals (Ahmad, 2013).

College students of Ahmad Dahlan University boarding school is a student residence hostel of Ahmad Dahlan University which is oriented on fostering Islamic and academic religion, so as to create intellectual cadres with noble character. This way is carried out to make any distinction of Ahmad Dahlan University students against other students from any different university. A study on the policy of Sunan Kalijaga State Islamic University has noticed some standards performed by university stakeholders to prepare students to be potentially develop as well as to establish a distinctive characteristics from other universities. The study has mentioned some standards, namely: (1) resourceful beings; (2) social beings; and (3) godly beings (Na'imah, 2018).

Since officially occupied until now, PERSADA has been able to provide some encouraging evidence. They are semester 1 students studying at Ahmad Dahlan University from a variety of majors. The study hours are 04.00 A.M. - 06.00 A.M. and 06.00 P.M. – 09.00 P.M. The daily programs and activities are: morning chanting, *tahfidz* Al-Qur'an & *Al-Hadits*, giving vocabulary, routinely evening studies, and sacred sites. The extracurricular activities are archery training, tilawah Al-Qur'an, seminars, and other trainings. They are also equipped with seminars, workshops, talk shows that aim to improve soft skills.

Besides, leadership or outbound trainings and IKSADA (Santri Persada Association) are accommodated to support and improvise their leadership. Not all students have experienced life in a boarding school, so it takes self-efficacy to adjust to new activities and complete the targets to be achieved while staying at the boarding school. Students with strong beliefs in their abilities will choose activities and social situations where they believe that they will be successful. Thus, they will be motivated to devote more time and effort toward accomplishing related goals (Delich & Roberts, 2017).

Sadewi (2012) clarifies some factors that affect self-efficacy, namely: (1) mastery experiences, (2) vicarious experiences, (3) social persuasion, and (4) physiological and emotional states. Self-efficacy can be increased if student can see the success of social models who have the same similarities with them. This kind of treat is called as modelling. Modelling techniques are learned through modelling observation, from observing others one is able to form ideas how behavior is formed then explained as a guide for action because someone is able to learn so as to reduce errors (Bandura, 1977). The application of group guidance service through modelling was effective to increase the students' self-efficacy into better category. The students were confident about their ability to face examination. They were also sure that they could maintain themselves, and be confident to organize their ability to face other situation or condition (Anggara & Yusuf, 2016).

Modelling is learning through observation by adding or reducing the observed behavior, identifying various observations while involving cognitive processes (Komalasari, 2011). One of modelling types is a real model. It resembles on what can be used as a model are counsellors, teachers, family members or other figures whom are admired (Komalasari, 2011). Life model is used to describe certain behavior, especially complex interpersonal situations in the form of social conversation and interaction in solving problems. Live model obtained by the counselee in the form of appropriate behavior, influence of attitudes, and social values (Corey, 2009).

In boarding, they are accompanied by mentor who is older or having a good behavior to be an example of Uswah Hasanah who can motivate to complete their target for 1 year of living in boarding. The role of mentor is to be a role model and figure. As expected, the existence of a figure can make them feel at home and confident. Through modelling techniques, it can assure to improve self-efficacy by live models. In this study, students can observe someone who is used as a model to behave and then strengthened by imitating the behavior of the model. In this study, the mentor as a model will be emulated by students.

This study aimed to find out how effective modelling techniques were used to increase self-efficacy of college students at Ahmad Dahlan University boarding school. Further, this study is expected to be able to contribute a new insight on college system in any university in Indonesia, particularly related to the enhancement of students' potency as compared to the intended goals of the university in abroad context which still has a connection and similarity to the substance of the study.

## 2. Literature Review

Self-efficacy is a compulsory matter for everyone, especially for students as learners. As learners, students requires to reach and achieve the targeted indicators within the policy of educational institute through its curriculum. Moreover, the goal of education is not merely intended to create intelligent human being, but also well-performed attitude as well as the improvement and development of knowledge (intelligence). In one matter, students need to possess a well-established self-efficacy to fulfil the targeted learning outcomes.

Correspond to this, this study can formulate self-efficacy in its relation to students' academic, behavior, and

achievement. Self-efficacy is tightly connected with learning process. Academic self-efficacy has become an important aspect that will affect students' choice of their learning task and behavior as well as their mentality and emotion on learning (Chang & Chien, 2015). Kreitner & Kinichi mentions some related aspects in self-efficacy, namely: cognitive, motivation, and affective. Cognitive aspect addresses students' ability to think of using and design any action that will be performed to reach and achieve learning goals (Robih et al. 2017). Besides, motivation means that self-motivating to perform an action to achieve an expected goal.

The study of existing self-efficacy as well as its relation to personality traits has been studied through some previous researches. A study by Ahmad and Safaria (2013) on the influence of self-efficacy against student's academic performance has resulted that students with high self-efficacy will prefer complex course than research and tends to choose a complex course for future time of learning. This finding is identical with a study by Liew et al (2008) that self-efficacy has affected children's self-regulatory skill to enhance future academic and achievement.

Besides, self-efficacy is not always expected to foster and enhance students' insight on particular knowledge. Self-efficacy is also expected to improvise students' personality building to support their academic achievement. Caprara and Steca (2013) has offered a distinctive idea on self-efficacy as how it affects personality building and development. His study has found that self-efficacy is a central role in promoting good personal functioning and satisfying life. Their study has call it as interpersonal and emotional self-efficacy.

However, self-efficacy is not always supposed to develop the cognitive aspect of students, but also their performance and social attitude. The significance of self-efficacy is in its major factor that can influence someone's personality and their cognitive ability. Personality and cognitive ability will contribute positively and mutually based on the context that everyone sets.

## 3. Method

This study was an experimental research with a pattern of non-equivalent control group design. Quasi experimental was designed along with nonequivalent pretest and posttest control group design; where there were experimental groups and control groups selected without random placement procedures. Both groups received pretest and posttest, but only the experimental group was given treatment (Cresswell, 2010). This research was conducted on August, 2019 at Ahmad Dahlan University.

The researcher obtained 16 students who had low self-efficacy, then divided into 1 group students randomly, 8 students in the experimental group and 8 students in the control group. The intervention provided to the experimental group was in form of modelling group received the intervention, while the control group received the intervention with no group exercises technique.

The population in this study was 129 students of Boarding school at Ahmad Dahlan University. The sampling technique was purposive sampling. The criteria for determining the sample was students on Boarding school of Ahmad Dahlan University, which indicated that they had low self-efficacy based on measurement with self-efficacy scale instruments.

The concept and parameter of self-efficacy scale adopted and modified from Generalized Self-Efficacy Scale by Schwarzer, R., & Jerusalem (1995). Self-efficacy scale consisted of 20 items with some criteria, namely: (a) low validity value (0.396); (b) high validity value (0.780); and (c) reliability test ($\alpha$=0.903).

The research was carried out through several stages as follows: (a) the implementation of the pre-test to determine the profile of the category of self-efficacy; (b) determining the sample of students experiencing low self-efficacy; (c) implementing modeling technique interventions to improve self-efficacy; (e) presentation of reports on the implementation of modeling techniques to improve self-efficacy. The data analysis technique in this research is using non parametric statistics with Wilcoxon Signed Rank Test. The purpose of using this data analysis technique is to see changes in self-efficacy before and after getting treatment of modelling techniques.

## 4. Result

The results of the spread of student self-efficacy scale to 129 students provided empirical facts about students' self-efficacy profiles as follows: (a) students in the high category numbered 26 people or 20.16%; (b) moderate category of 87 people or 67.44%; and (c) there is a low category of 16 people or 14.5%. The researcher obtained 16 students who had low self-efficacy. Then divided into 1 group students randomly, 8 students in the experimental group and 8 students in the control group. The intervention provided to the experimental group was in form of modelling group received the intervention, while the control group received the intervention with no group exercises technique.

The results of the research prove that after treatment was given to the experimental group there was an increase, while the control group did not have a significant change. Differences in the experimental and control groups can be seen from the results of the hypothesis test analysis presented in Table 1.

Table 1: The Difference of Experimental and Control Group

| Measurement | | Experiment (N=8) | Control (N=8) |
|---|---|---|---|
| Pretest | M | 54.00 | 55.50 |
| | SD | 2.000 | 1.603 |
| Posttest | M | 64.00 | 56.375 |
| | SD | 3.162 | 2.669 |
| Z | | -2.371 | -.987 |
| P | | 0.018 (<0,05) | 0.323(<0,05) |

## 5. Discussion

The previous data has indicated that the Wilcoxon test results in the experimental group's self-efficacy has resulted that Z is -2.371 and probability p = 0.018. This shows that the value of p = 0.018 is less than 0.05 (5% error level), it can be concluded that there are differences in the results of experimental group self-efficacy before and after treatment is given. While the Wilcoxon test results of self-efficacy in the control group that Z equal to -0,987 and probability p = 0.323. This shows that the value of p = 0.323 is greater than 0.05 (5% error level), so it can be concluded that there is no difference in the results of self-efficacy in the control group before and after treatment is given.

Students in their lives are inseparable from the demands that are increasingly numerous and difficult. High demands are vulnerable to make students feel pessimistic, give up easily, and feel that they are not able to make these demands well. Self-efficacy determines how much effort and how capable individuals survive to reach the goal, so that college students are required to have a high self-efficacy (Ardhanari, 2015). A high degree of self-efficacy leads people to work hard and persist in the face of setbacks. In a dynamic work context, where ongoing learning and performance improvement is needed, high self-efficacy helps individuals to react less defensively when they receive negative feedback. In areas where their self-efficacy is low, people often see a negative outcome as confirming the incompetence they perceive in themselves. This can set up a vicious cycle, whereby ambiguous results are considered as evidence of perceived inability, further lowering an individual's self-efficacy, effort, and subsequent performance (Ahmad, 2013).

Self-efficacy is required by students to face various learning problems (Hananto, 2019). Students with high self-efficacy preferred mastery goals, which entailed challenges and new knowledge, as well as performance goals that comprised good grades and surpassing others (Köseoglu, 2015). Students' should be exposing to the kind of self-efficacy intervention program in order for the students' to be having a kind of confidence to feel that, they can really perform well and deal with all academic related task positively, which in turn improve academic achievement of students' positively (Kolo et al. 2017).

In this research, students with low self-efficacy grouped into 2 group: the experimental group given modelling techniques and the control group given a discussion. Modeling techniques can be one of the most recommended counseling techniques in overcoming problems related to self-efficacy (Sintadewi et al. 2014). Modelling technique is one of the techniques in counseling services using models or examples that come from outside of the client with the aim that the behavior in the model can be observed by the client and can be imitated by the client as a guide in behaving (Herdian & Yendi, 2019). The application of group guidance service through modeling was effective to increase the students' self-efficacy into better category. The students were confident about their ability to face examination, they were sure that they could maintain themselves, and they had confident to organize their ability to face other situation or condition (Anggara & Yusuf, 2016).

One way of creating and strengthening self-beliefs of efficacy is through the vicarious experiences provided by live models. Seeing people similar to oneself succeed by sustained effort raises observers' beliefs that they too possess the capabilities master comparable activities to succeed. Modeling influences do more than provide a social standard against which to judge one's own capabilities. People seek proficient models who possess the competencies to which they aspire. Through their behavior and expressed ways of thinking, competent models transmit knowledge and teach observers effective skills and strategies for managing environmental demands. Acquisition of better means raises perceived self-efficacy (Bandura, 1982). Through social models other people's experiences can be obtained, so that self-efficacy can be increased when individuals observe others whose abilities are equal (Sopiyah et al. 2020).

The consideration of researchers utilizing live modeling techniques in information services is as a learning process through observation where the behavior of individuals or groups that act as model figures can provide stimulation for thoughts, attitudes, or behavior as part of other individuals who observe the character of the model. Based on the explanation above, live modeling technique is one of the effective strategies to improve self-efficacy. The success of live modeling techniques that are carried out very much depends on the figure shown. In this research, there was a significant increase in the experimental group given the treatment of modeling techniques. Indirectly, this shows that the low self-efficacy of students can be increased after being given the treatment of modelling techniques.

## 6. Conclusion

The modelling technique is effective to improve self-efficacy college students of Ahmad Dahlan University boarding school. This research can be used by related parties, such as guidance and counseling teachers or counselors in students who have low self-efficacy. Students can observe the behavior of the model, so students can imitate the behavior of models that have high self-efficacy. There should be a single or number of parts that this study has not fulfilled, and it would be best to recommend future research to investigate and conduct an analytical and theoretical study on self-efficacy and its relation to the graduate standard and working prospects of college students.

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