

## **Apprenticeship Model in Entrepreneurship Learning at University**

**Hari Mulyadi\*, M. Arief Ramdhany and Ratih Hurriyati**

*Indonesia University of Education, Jalan Setiabudhi No. 229, Isola, Sukasari, Kota Bandung, Jawa Barat 40154, Indonesia*

### **ABSTRACT**

This paper examines to which extent apprenticeship model of learning can influence entrepreneurial attitudes and motivation of students. This is a quasi-experimental study using pre-post-test design. Participants were 40 students of Business Management Education Program, Faculty of Economics and Business Education, Universitas Pendidikan Indonesia (UPI), class of 2013. The paired sample t-test was used to test the hypothesis. Results showed a significant improvement in entrepreneurial attitudes and motivation of students as a result of the implementation of the model.

*Keywords:* Apprenticeship model of learning, entrepreneurial attitudes, entrepreneurial motivation

### **INTRODUCTION**

Indonesia faces very high unemployment rate, especially over the past four years. More specifically, the rate of unemployment

among university graduates increased from 398,298 in 2014 to 565,402 in 2015, and to 695,304 in 2016 (Central Bureau of Statistics, 2017).

This needs to be addressed urgently as prolonged unemployment leads to social and economic problems, including crimes. Government agenda cannot be implemented if most university graduates are job seekers instead of job creators. This situation can be traced to the learning process currently applied in the universities that focuses more on how to prepare the students to finish their study soon and get jobs, rather than how to create jobs.

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*E-mail addresses:*

harimulyadi@upi.edu (Hari Mulyadi)

ramdhany@upi.edu (M. Arief Ramdhany)

ratih@upi.edu (Ratih Hurriyati)

\* Corresponding author

Entrepreneurship is the key to the success of a country's economic development, especially in developing countries (Niranjan & Krishnakumare, 2016). In addition, entrepreneurship is important to eradicate poverty (Ruswanti, 2016). One of the efforts to create new entrepreneurs and to reduce unemployment is through the entrepreneurship education. Entrepreneurship education emphasises creation of knowledge, attitude and motivation, and individual skills to undertake entrepreneurship activities. Entrepreneurship education is designed to change the students' orientation and attitude through a process that provides the students skills and knowledge that enable them to start and manage a business (Agu, 2006). Entrepreneurship education deals with the attitudes and skills necessary for individuals to respond to the environment in the process of conservation, starting and managing a business enterprise (Emereton, 2008). The aim of entrepreneurship education is to provide special knowledge and skills for decision making in entrepreneurship (Uebelacker, 2005).

Development of education should be geared towards a competent human. Innovation should be the priority of development to generate various competitive advantages. The system of education in Indonesia is heavily geared towards to learning to know, not on learning to do (Siswoyo, 2009). Without significant innovation in education, the outcome will be graduates who are dependent on other people. In Indonesia, the apprentice

model has not been optimally implemented in entrepreneurship learning. The entrepreneurship education must ensure the graduates are independent and to be innovative.

The process of education must be creative and innovative to grow the entrepreneurial interest and attitude of the students. The process of education is important to encourage the concept of entrepreneurship education. With constant entrepreneurship education embedded in the curriculum and student activities, it is expected that in 2014, 20% of university graduates will be successful entrepreneurs (Kartadinata, 2009). In the context of higher education, entrepreneurship learning is an application of entrepreneurship education. The entrepreneurship learning is a process to acquire the cognitive knowledge, to structure the knowledge, and to obtain the meaning of the experience (Rae & Carswell, 2000).

The current curriculum of entrepreneurship learning at Universitas Pendidikan Indonesia (UPI) merely focuses on cognitive knowledge so that entrepreneurial attitude and motivation of students are relatively low. In order to nurture students' entrepreneurial attitude and motivation, it is necessary to provide them the real experiences in real business. One way to get the real experience is through apprenticeship. In fact, apprenticeship has a positive and significant influence on entrepreneurial attitude, entrepreneurial motivation and entrepreneurial behaviour (Mulyadi, 2011).

There are several efforts to create new student entrepreneurs, such as through the Student Entrepreneurship Programme, Self-supporting Entrepreneurship, and Entrepreneurship Course. It is expected that the entrepreneurship learning integrated with apprenticeship will develop entrepreneurial attitude and motivation of students. In this context, educational institutions have offered opportunities of experiential learning for students to ensure that they find an area they are comfortable with for the future. Through forms of temporary anticipatory socialisation work assignments, such as cooperative education and internships, the student can transfer and connect classroom concepts to actual work experience (Nicholas, 2016). This paper focuses on the entrepreneurship course which has a provision for apprenticeship.

The research problems are: (1) whether or not there is an increase in students' entrepreneurial attitudes after the implementation of apprenticeship learning model in entrepreneurship course, and (2) whether or not there is an increase in students' entrepreneurial motivation after the implementation of apprenticeship learning model in entrepreneurship course.

## LITERATURE REVIEW

The concept of entrepreneurship is divided into two definitions: entrepreneurship as a process and entrepreneurship as an ability. As a process, entrepreneurship is the implementation of creativity and innovation to solve problems and find opportunities to improve business (Zimmerer, Scarborough,

& Wilson, 2005). Entrepreneurship is the process of creating something new in terms of value, using the required time and effort, bearing the financial risk, accompanied physical and social risks, receiving generated monetary rewards, satisfaction and personal freedom (Hisrich & Peters, 2002). Thus, entrepreneurship is combination of creativity, innovativeness, and courage to take the risks in an effort to nurture and establish new businesses.

Entrepreneurship is a creative and innovative ability as the basic, trick, and resources to explore the opportunities to success (Suryana, 2011). In the context of business, entrepreneurship is the result of a disciplined, systematic process of applying creativity and innovations to needs and opportunities in the marketplace. The success of entrepreneurship will be achieved by thinking and doing new things, or doing old thing in new ways, or doing old thing in a different way. An entrepreneur is a creative and innovative person who seeks opportunity for success. Entrepreneurs change existing economic order by introducing new products and services, by creating new forms of organisation, or by using new raw material. An entrepreneur is also one who creates a new business in the face of risks and uncertainty for the purpose of achieving profit and growth by identifying significant opportunities and capitalising on the available resources.

Considering that entrepreneurship likely leads to success, the encouragement for success is important (Alma, 2010). The relationship between motivation and success

is reciprocal and entrepreneurship is highly correlated with success (Mulyadi, 2011). Therefore, to create new entrepreneurs, entrepreneurial attitudes and motivation must be nurtured through education, particularly through apprenticeship in university by providing students work experiences as part of their curriculum before they graduate. Learning process that relies only on giving lectures to students in classrooms without providing real-world learning opportunities or work experience would likely cause low entrepreneurial attitude and motivation among students.

Apprenticeship or learning by doing is one of the learning processes that may provide real experience to the students, through obtaining and mastering the skills at work with or without instruction from the other skilled person at work. In this sense, apprenticeship is a learning process where the students will follow the style of their instructors (Kamil, 2007). In a broad sense, apprenticeship is a method to prepare a person to become entrepreneur. During the learning process, students attempt to understand the process of production and the quality of a product, understanding the method both from the aspect of technology and organisation, knowing the market of the products, understanding the problems and how to solve them, and to develop their creativity and innovativeness to start entrepreneurship (Dikti, 2010).

As a system, apprenticeship can be seen from the aspects of learning process and management (Djatnika, 2009). As a learning

process, consists of three components: input, process, and output. The input is the instrumental input, raw input, and environmental input. The process involves the interaction of the input components. The output is the graduates' academic and behavioural quality, as a result of the learning process. Several traits which can be drawn from the characteristics of the learning process are self-facing learning modules, faculty teams, field experience, personalisation strategies and facilities. As a learning management, there are three cores of apprenticeship: students, instructors (teachers, tutors, facilitators), and learning materials. The learning management is important for three reasons: involving various parties, managerial roles, and activities to help, serve, and direct all events to achieve the objectives.

Attitude may be defined differently depending on the concepts. It is a predisposition to respond in certain ways to the surroundings, either to certain individual or objects. Attitude is a readiness to respond consistently in positive or negative form of the object or situation (Eisenberg, Shea, Carlo, & Knight, 2014). Attitude is a way of reacting to stimuli from a person or a situation. The attitude will be very useful for someone, because it would result in expected behaviour. Attitude has three components: (a) cognitive, referring to knowledge, beliefs or thoughts that are based on the information associated with the object; (b) affective, which refers to the emotional dimension of attitude, namely

the emotion associated with the object; and (c) behaviour that involves predisposition to react to the object (Brodie, Ilic, Juric, & Hollebeek, 2013).

Entrepreneurial attitudes are consistent with the traits of entrepreneurship (Meredith, 2005), namely: (a) confidence, beliefs, independence, individuality, and optimism; (b) orientation on task and result, need for achievement, orientation on profit, perseverance and fortitude, determination and hard work, strong impulse, being energetic and dynamic; (c) taking the risk and challenge, ability to take reasonable risks; (d) leadership, behavior as a leader along with others, responding to suggestions and criticisms; (e) originality, innovative and creative, and flexible; and (f) orientation to the future, foresight and perspective. These traits are the basis of entrepreneurial attitudes.

Motivation is important to understand why and how a person behaves. Motivation is needed to (a) observe and understand the behavior of individuals; (b) find and determine the causes of individual behaviour; and (c) calculate, monitor and change, as well as direct the individual behaviour (Mulyadi, 2011). Motivation is associated with (a) directing behavior, (b) the strength of the reaction after an employee has decided towards certain actions, and (c) the persistence of behaviour, or how long the person is willing to continue the particular behaviour in a certain way (Winardi, 2002). High motivation will determine the behavior of a person consciously. Thus,

motivation can be defined as impetus of an individual to perform particular activities aimed at achieving certain goals. Motivation is divided into three groups: (a) content theories, (b) process theories, and (c) reinforcement theories (Hasibuan, 2003).

This study focuses on content theories, especially the achievement motive. In this sense, a person may have entrepreneurship motivation if he has certain motive, namely achievement motive. The achievement motive is a social value that emphasises the desire to achieve the best result to acquire personal satisfaction. The basic factor is the need to meet.

## **MATERIALS AND METHODS**

The method of this study is quasi-experimental; in that, the experiment has treatments, outcome measures, and experimental units, but does not use random assignment to create the comparison to conclude the change as a result of the treatment. The pattern in this research is the one-group pre-test-post-test design. The design was administered to only one class, namely the students of Business Management Education, Faculty of Economics and Business Education, Class of 2013-A, who were registered for the Entrepreneurship Course. Both initial and final measurements were carried out through questionnaire and observation respectively before and after treatment. The scheme of the one group pre-test-post-test design is presented as follows:

Table 1  
The scheme of the one group pre-test-post-test

Pre-Test	Treatment	Post-Test
O <sub>1</sub>	X	O <sub>2</sub>

Notes:

- O<sub>1</sub> : Pre-test score (before treatment)
- X : Treatment (apprenticeship learning model)
- O<sub>2</sub> : Post-test score (after treatment)
- (O<sub>1</sub> – O<sub>2</sub>) : effect of treatment

The subject of this study was 40 students of Business Management Education, Faculty of Economics and Business Education, Class of 2013-A, who registered in the Entrepreneurship Course in academic year of 2014/2015. This study was conducted in the micro and small enterprises where the students were apprentices. Data was collected through questionnaire. Additionally, data was also obtained through the direct observation. Data collected was on the entrepreneurial attitude and motivation of students in two steps, namely first step (pre) and final step (post) using the same instrument.

The data analysis technique was aimed at testing hypothesis with paired sample t-test. Before that, the data must be normally distributed. To test the normality of data, one-sample Kolmogorov-Smirnov test was used. Data is distributed normally if it has significance value of  $r > 0.05$ . It is found that the significant value of each variable respectively is 0.315 and 0.943 which are more than 0.05. Since the data is normally distributed, it can be analysed using paired sample t-test. The paired sample t-test is a method to test the hypothesis where the data is paired (not free). The characteristic

most frequently encountered in the case of the pairs is that one group was given two different treatments. Although using the same group, researchers still obtained two kinds of sample data, i.e. data from the first treatment and data from the second treatment. Based on these explanations, the paired sample t-test is appropriate to prove the hypothesis.

To determine whether or not there is influence of apprenticeship model on entrepreneurial attitudes and motivation before and after the treatment, the difference test of two averages is used. To calculate the level of entrepreneurial attitudes and motivation of the students, the formula below is used:

$$t = \frac{\bar{d}}{\left(\frac{Sd}{\sqrt{n}}\right)}$$

in which:

- t : value of t-statistic
- $\bar{d}$  : average difference of measurement 1 and 2
- $\left(\frac{Sd}{\sqrt{n}}\right)$  : standard deviation difference of measurement 1 and 2
- n : sample size

The criteria of hypothesis testing are as follows:

If  $t_{stat} > t_{critical}$ , then H<sub>0</sub> is rejected

If  $t_{stat} < t_{critical}$ , then H<sub>0</sub> is accepted

or

if sig. > 0,05, then H<sub>0</sub> is accepted

if sig. < 0,05, then H<sub>0</sub> is rejected

**RESULTS AND DISCUSSIONS**

**Results**

Entrepreneurial attitude is shown by the scores of statements. The change in scores of

entrepreneurial attitudes before and after the treatment of apprenticeship model explains the decrease or increase of the students' attitude, as depicted in the figure below:

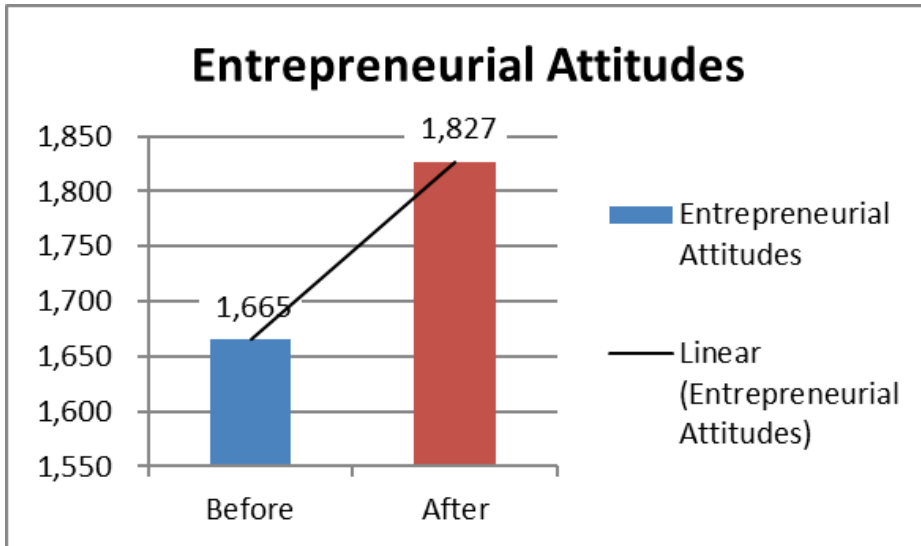


Figure 1. The score of entrepreneurial attitudes of students before and after the treatment of apprenticeship learning model

Source: Data Processed, 2015

Based on the figure above, it can be seen scores of entrepreneurial attitude have increased. This shows that the attitude of students to entrepreneurship is more

positive after the treatment based on the apprenticeship learning model.

The description of each indicator that forms entrepreneurial attitudes of the students is presented in the following figure.



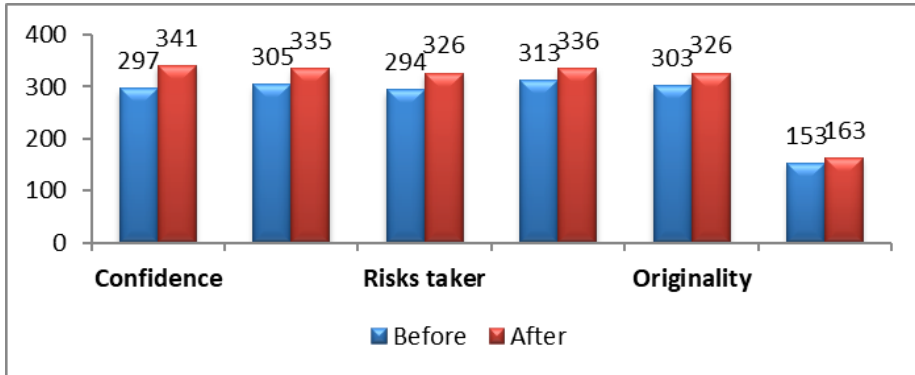


Figure 2. The score of students' entrepreneurial attitudes before and after the treatment of apprenticeship learning model based on each indicator  
 Source: Data Processed, 2015

Based on Figure 2, all indicators that form the entrepreneurial attitudes of students increased. The indicator that increased drastically is confidence (14.8%) and the least is future orientation (6.54%). It can be concluded that the apprenticeship

learning model has an influence on the entrepreneurial attitudes of students.

The description of entrepreneurial motivation of students before and after the treatment of apprenticeship learning model is presented in Figure 3 below.

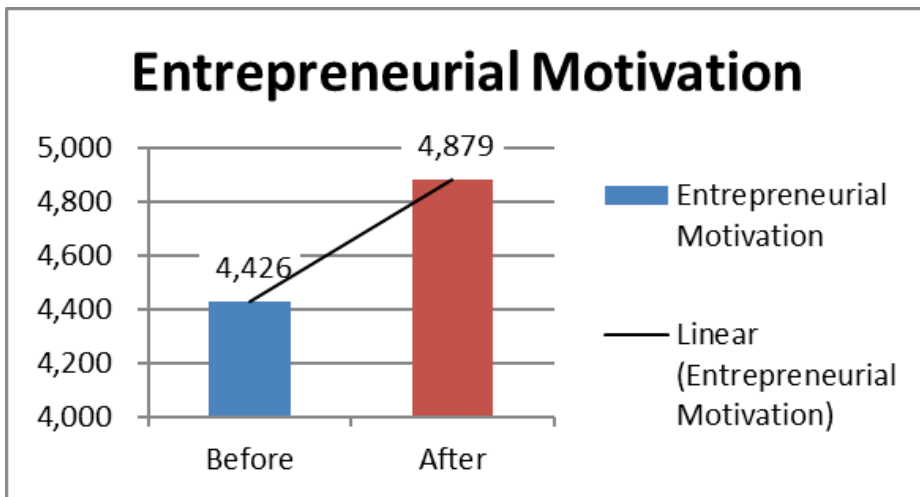


Figure 3. The score of entrepreneurial motivation of students before and after the treatment of apprenticeship learning model based on each indicator  
 Source: Data Processed, 2015



Based on the Figure 3, it can be seen that the entrepreneurial motivation scores of students have also increased. This shows that the motivation of students towards entrepreneurship is greater after the

treatment of apprenticeship learning model. The description of each indicator that forms the entrepreneurial motivation of students is presented in the following figure.

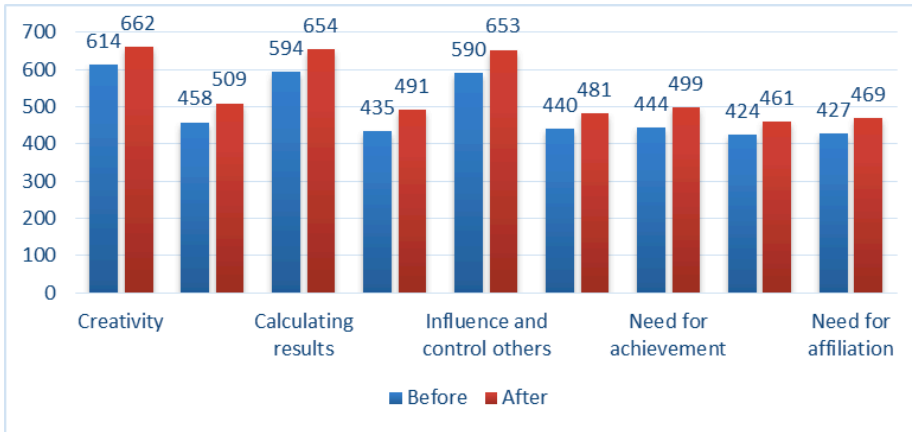


Figure 4. The score of students' entrepreneurial motivation on each indicator before and after the treatment of apprenticeship learning model  
 Source: Data Processed, 2015

Based on Figure 4, all indicators that form the entrepreneurial motivation of students increased. The most increasing indicator is the need for achievement (12.39%) and the least is creativity (7.82%). It can be concluded that the apprenticeship learning model has an influence on the entrepreneurial motivation of students.

### The Influence of Apprenticeship Learning Model on Entrepreneurial Attitudes

In order to find out whether there is an influence of apprenticeship learning model on entrepreneurial attitudes, the difference test on the samples before and after the treatment was conducted. The result of the hypothesis testing is presented as follow.

Table 2  
Result of hypothesis Testing #1

		Paired Samples Statistics							
		Mean	N	Std. Deviation	Std. Error Mean				
Pair 1	Before	37.8000	40	4.66410	.73746				
	After	45.6750	40	4.72521	.74712				
		Paired Samples Test							
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig (2-tailed)
						Lower	Upper		
Pair 1	Before-After	7.87500	5.77877	.91370	6.02686	9.72314	8.619	39	.000

Based on the calculation, the average score before treatment is 37.8 and after is 45.67. Using signification of 5% or 0.05, the value of t-statistic is 8.619. Therefore, it can be concluded that there is a significant difference in students' entrepreneurial attitudes before and after the treatment. In other words, the apprenticeship learning model has an influence on the entrepreneurial attitudes of student.

**The Influence of Apprenticeship Learning Model on Entrepreneurial Motivation**

To find out whether there is an influence of apprenticeship learning model on entrepreneurial motivation, the difference test on the samples before and after the treatment is conducted. The result of hypothesis testing is presented as below.

Table 3  
Result of hypothesis Testing #2

		Paired Samples Statistics							
		Mean	N	Std. Deviation	Std. Error Mean				
Pair 1	Before	110.6500	40	10.98846	1.73743				
	After	121.9750	40	7.67777	1.21396				
		Paired Samples Test							
		Paired Differences							
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference		t	df	Sig (2-tailed)
						Lower	Upper		
Pair 1	Before-After	11.32500	9.70167	1.53397	8.22225	14.42775	7.383	39	.000

Based on calculation, the average score before treatment is 110.65 and after is 121.97. Using signification of 5% or 0.05, the value of t-statistic is 7.383 so that it can be concluded that there is a significant difference in the entrepreneurial motivation of student before and after the treatment. Hence, the apprenticeship learning model has an influence on entrepreneurial motivation of student.

## DISCUSSIONS

It is found that the apprenticeship learning model positively influences students' entrepreneurial attitudes. There is significant difference in students' entrepreneurial attitudes before and after the implementation of the model. This finding confirms that an attitude is the way of reacting to the stimuli from a person or a situation. The situation, in this case, is the apprenticeship learning model. In this sense, the entrepreneurship education is designed to change the orientation and attitude of learners through a process consisting of skills and knowledge which allows one to start and manage a business (Agu, 2006). Both skills and knowledge are likely to be acquired by the students through apprenticeship. The more effective the implementation of the apprenticeship model, the more positive the entrepreneurial attitudes of students are.

It is also found that the apprenticeship learning model has positive influence on students' entrepreneurial motivation. There is also a significant difference in students' entrepreneurial motivation before and after the implementation of apprenticeship

learning model. This finding suggests that entrepreneurial motivation is positively affected by the apprenticeship learning model (Mulyadi, 2011). The more effective the implementation of the apprenticeship model, the higher the entrepreneurial motivation of students.

Motivation is important to understand why and how a person behaves. The behaviour is essentially the acts of someone driven by certain motivation to achieve particular set goals (Huang & Bargh, 2014). Motivation is not only demanded by one's internal needs, but also influenced by what he has learned.

In relation to the entrepreneurship, one can have an entrepreneurial motivation when he is driven by certain motive: the achievement motive. The achievement motive is a social value that emphasises the desire to get the best result in order to achieve personal satisfaction. The basic factor is the need to meet. This is in line with Dörnyei and Ushioda (2013) who suggest that motivation is a psychological process that reflects interaction between attitudes, needs, perceptions and decisions within a person.

Apprenticeship is just like training whose objective is to change the entrepreneurial attitude and drive the entrepreneurial motivation of a person. In particular, the goal of apprenticeship is to improve the entrepreneurial motivation of students, who are interested in becoming prospective entrepreneurs and may open opportunities to gain practical experience of entrepreneurship (Saeed, Yousafzai,

Yani-De-Soriano, & Muffatto, 2015). In this sense, apprenticeship that is incorporated in the entrepreneurship course/learning will provide the real experience and applied knowledge for the students when they take up jobs.

## CONCLUSION

Based on the discussion of research, the following conclusions are drawn:

There is a significant improvement of students' entrepreneurial attitudes, before and after the implementation of apprenticeship learning model. The significant difference means that the model has a significant influence on students' entrepreneurial attitudes.

There is also a significant improvement in students' entrepreneurial motivation, before and after the implementation of the model. The improvement suggests the model has a significantly positive influence on students' entrepreneurial motivation.

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