

How Is the Student's Personality in Implementing Science and Technology for Entrepreneurship Learning with a Production-Based Learning Approach in Higher Education?

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Abstract: The abilities to survive and job opportunities for graduates of higher education are now very limited because of the transformation of workers who replaced by many machines and information technology. This study aims to explore and describe the student's personality in the implementation of science and technology for entrepreneurship with a production-based learning approach to higher education. The personality of the students is very determining the direction of success in the future, especially how students think and manage reviews their mindset. Implementation of entrepreneurship education and training in higher education, gradually changing the student's mindset from graduation for seeking work turned into graduation for creating jobs. In entrepreneurship, learning is not only a given theory but also there are skills and practices of entrepreneurship through the approach of the production-based learning in higher education. Method of research used was descriptive quantitative and field observation in depth to 46 students. The personality of the students who are associated with the entrepreneurial character is analyzed from ten aspects roommates are divided into three playing parts, including, communication skills (speaking skills, speaking qualities, speaking content, sense of humor), added value (reliable have been more potential) and teamwork with others (willing to go together). Based on the results of the descriptive statistical analysis with SPSS 17.0, it shows that the personality condition of students in the implementation of science and technology for entrepreneurship with the production-based learning approaches in higher education were very good. Therefore, it concludes that the personality of students who have the character of entrepreneurship in the development of education and entrepreneurship training in higher education is needed, so, it is expected that the graduates of higher education are able to create jobs.

Key words: Student's personality, entrepreneurship, production-based learning approach, qualities, education

INTRODUCTION

Higher education serves to develop the ability and character development, as well as the civilization of the nation's dignity within the context of the intellectual life throughout the nation. Higher education also serves to develop science and technology by observing and applying the values of the humanities. In addition, higher education is required to produce a competent workforce in order to increase productivity and efficiency as well as the readiness of the international labor market competition in the era of globalization where the business management should be considered where the business management should be organized well in order to be able to compete in tied today business global competition. However, the reality of college graduates who actually highly expected to be a driving force and accounts for the

number of entrepreneurs in Indonesia's fact just the opposite. Based on the data owned by the Central Statistics Agency (BPS) in 2016 and 2017 for Unemployment Rate (TPT) starting from February 2016, there are 7.02 million people or 5.5%. In August 2016, there are 7.03 million people or 5.61%. The most recently, February 2017 is 6.68 million people or 5.33%. It figures a decreasing in unemployment despite very little. It includes the unemployed tertiary graduates (educated unemployment). This happens of course is due to various factors, including the ability to survive in a social life with entrepreneurial competencies (character, thought patterns and behavior entrepreneurship) owned is still lacking. Development of higher education that is equipped with a highly entrepreneurial competence is a leading light in addressing educated unemployment (intellectual).

Furthermore, there are very basic things that affect how students behave to succeed and prosper, one of the roots of entrepreneurship is a true mindset. It is because the personalities of the students determine the direction of their future success and determine particularly how students think and manage the mindset. Application of entrepreneurship education and training in higher education can gradually change the mindset of students from graduates to find work turned into graduates to create jobs (Birch *et al.*, 2017; Passaro *et al.*, 2018; Rae and Melton, 2017; Zamani and Mohammadi, 2017). The wishes of the students and graduates to entrepreneurship are quite good. It is also supported by various programs in the field of entrepreneurship in universities, such as the Students Entrepreneurs Program (PMW) and Students Creativity Program of Entrepreneurship Field (PKM-K). It makes the student's entrepreneurship interests increased enough.

Entrepreneurship interests which have started to appear on the students would need to be supported by the readiness of the process of entrepreneurial learning at the classroom by teachers (Brendle *et al.*, 2018; Cincera *et al.*, 2018). Nevertheless, the reality is more educators teaching the theory without approaching the field implementation (Mani, 2018), so, it has a bad impact on the formation of personality and character of student's entrepreneurship in higher education. Implementation of science and technology for entrepreneurial learning with the production-based learning approach in creating an entrepreneurial personality of students in higher education is needed; entrepreneurial learning activities with production-based learning approach facilitate students to have a strong personality (Ganefri and Hidayat, 2015; Ganefri *et al.*, 2017a, b).

The learning process which involves the elements of the activity at the production-based learning approach, can gradually give change. It is because the personality of the students related to the entrepreneurial character, including communication skills (speaking skills, the quality of speech, the content of speech, sense of humor), the added value (unreliable, has the potential to be) and teamwork (fast close to others, be willing to go along). This personal aspect is the main assets for someone to be successful in the working world, especially in entrepreneurship. Therefore, based upon the reasons, researchers were interested in conducting this research since the aim is to explore and describe the personality of students in the implementation of science and technology for entrepreneurship with the production-based learning approach in higher education. Dimensions of entrepreneurial skills are no less important for student enterprise to succeed in the campus businesses. Thus, the higher learning institution should inculcate students with elements of entrepreneurial skills (Mohamad *et al.*, 2014).

Review of the theory and entrepreneurship education in higher education: Research on entrepreneurship has been widely studied (Kusumaningrum and Hidayat, 2016; Ganefri *et al.*, 2017a, b; Yulastri *et al.*, 2018; Yuliana, 2017, Yuliana and Hidayat, 2018; Hidayat *et al.*, 2018). Education and training for entrepreneurship are the process of facilitating individual with the concepts and skills to be able to recognize business opportunities and have the insight, confidence and the ability to act. Entrepreneurship education and training aimed to inspire students to evoke emotion and a change of mindset. In addition, studies of the theory, education and entrepreneurship training have actually been much studied by experts such as the theory of decision-making. It helps us to understand why some executives are able to see the opportunities that will benefit economically while others do not. These theories greatly assist learners in the field of natural face problems related to entrepreneurship issues. It is found that an effective way to teach entrepreneurship requires a combination of theory and application.

Furthermore, to foster entrepreneurship as a mindset can be considered as an educational competency (Edwards-Schachter *et al.*, 2015; Karimi *et al.*, 2016a, b) based on instructional learning experience as well as in training (Kakouris, 2015; Robinson *et al.*, 2016). Besides, the enterprise has become an indication of a country's economic growth. Positive impact on formal entrepreneurship education is the ability gained through the education necessary to detect and evaluate better business opportunities (Bonesso *et al.*, 2018; Li *et al.*, 2018), increase the confidence of the perceived risk as well as scouting care and employment (Smith *et al.*, 2018; Tegtmeier and Kurczewska, 2017) and promote entrepreneurial intention among students (Sondari, 2014). The important part is that people tend to acquire knowledge that can provide benefits in the ability of skills through education (especially formal) are more practical, including entrepreneurship education.

Review of production-based learning model: The model is a conceptual framework that is arranged in a logical and systematic sequence as a guide in conducting an activity, while the methods and approaches are different ways or learning implementation strategy with the aim of involving the active participation of learners fully in the learning process. The following will discuss the models of learning and development procedures as well as some suitable methods and learning approaches applied in a variety of learning models. Production-based learning model is a procedure or steps that need to be done by educators to facilitate the students to learn actively, participatory and interactively with

competence-oriented to produce a product either goods or services needed by society (Ganefri and Hidayat, 2015).

Production-based learning model is a process of expertise or educational skills that are designed and implemented a standard based on the working procedures and the actual (real job) to produce goods or services that in line with the demands of markets or customers (Saputro *et al.*, 2018; Suryadi and Supriatna, 2018). Production-based learning emphasizes learning models, where students can undertake the production of goods or services that meet the standards of the world business/industrial world and society. Production-based learning is the learning models that models give learners the opportunity to develop and review their skills and ability to think and work together. In the learning process with this production-based learning model, learners are required to be able to be as active as raises important questions relating to the products to be made. Production-based learning models consist of syntaxes or steps in the learning process, roommates. According to Ganefri and Hidayat (2015), production-based learning models, syntax or sequence of steps consists of nine steps. They are analyzing of curriculum and characteristics of learners, identifying and analyzing products, making the important question of the product, mapping the question, analyzing the needs of the equipment and materials into the products to be made, making the schedule of manufacture of the product, process of making the product and evaluating regularly and making the business plan.

Research objectives: This study was aimed to explore and describe the student’s personality in the implementation of science and technology for entrepreneurship with a production-based learning approach to higher education.

MATERIALS AND METHODS

The research method used was descriptive quantitative and in-depth observation to 46 students in higher education. This study explored and described the personality of the students in the implementation of science and technology for entrepreneurship through the implementation of production-based learning approach in higher education. Personality of students related to the entrepreneurial character analysis of ten aspects, which are divided into three main parts; communication skills (skills speaking, the quality of speech, the content of speech, sense of humor), the added value (unreliable was more potential) and teamwork (getting close faster to others, be willing to go along). Questionnaire was a form of data collection instruments and descriptive statistical analysis with SPSS 17.0.

RESULTS AND DISCUSSION

Based on the data analysis, the student’s personality associated with the entrepreneurial character resulted as in Table 1.

The analysis results obtained show the average value on a score of 29.4 which means that the personality of students in the implementation of science and technology for entrepreneurship with the production-based learning approach, is a good category. Furthermore, the minimum values obtained with a score of 19.00, means the student’s personality in particular on communication skills must be enhanced and improved. While the maximum value with a score of 36.00, means the student’s personality in particular, on getting better teamwork. It can be seen in the form of histogram analysis results as follows (Fig. 1).

As the addition to the results obtained by statistical analysis, researchers also obtained the results from the field observations associated with what the student’s needs for changing the personality and mindset in science and technology activities for entrepreneurship learning with the production-based learning approach. The result obtained was: the majority of students desire entrepreneurial learning through science and technology activities for entrepreneurship learning with

Table 1: Descriptive statistics on student’s personality

	Valid	46
	Missing	0
N		
Mean		29.3913
Std. deviation		3.87859
Variance		15.043
Minimum		19.00
Maximum		36.00

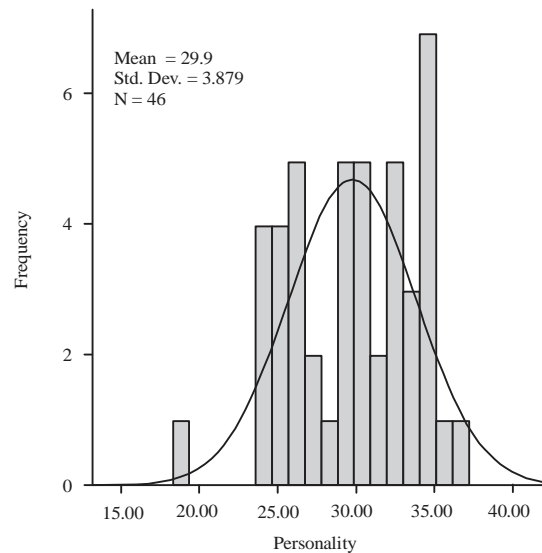


Fig. 1: Histogram of student’s personality

production-based learning approach which can be a learning experience that is fun, challenging and acquire a range of knowledge and experience. On the contrary, learning becomes very tedious when professors teach with expression very flat and explain to him/her. Students are very aware of the usefulness of science and technology for entrepreneurial activity with the production-based learning approach, especially with the challenge of free job market of countries in ASIA region. Therefore, skill in entrepreneurship knowledge is needed but most students do not get it, in particular, mindset in right entrepreneurship, the majority of students from other universities have started to implement entrepreneurial learning a little more seriously with the outer end of the lecture by conducting case studies and report the results of case studies and provide alternative solutions to problems found. Then there also has been directed to create and produce products that have the commercial potential, as some major's vocational and vocational education and in some polytechnic.

Based on the data analysis and information gathered from field observations, so, there is a discussion on some matters as the following.

Education and entrepreneurship training is an alternative to shaping entrepreneurship personality:

Education and training for entrepreneurship as an alternative form the personality of entrepreneurship develop the students as an entrepreneur potential. We need to recognize what are our actual and personalities. The most important thing in developing the personality is someone must know first themselves, their own character, know the strengths and weaknesses, know the skills and knowledge capacity, capability and another unique talent in them. Getting to know the self-personality means acquiring knowledge about the totality of the truth of them. By getting to know them appropriately, personality will know the true self-concept as well, seeking to develop a positive and overcome or eliminate the negative.

Personality itself is a product of "lessons learned" absorbed from the family environment and public schools. The process of entrepreneurial learning that happens in the family to grow and develop the business by learning opportunities (Wahjono *et al.*, 2014). The success of the formation of the personality of a person is heavily influenced by the learning process received since a small example of the values of life in the form of view of good and bad or right and wrong ways of solving problems. Moreover, assisting parents in obtaining feedback from the events seen, felt and experiencing will affect the process of formation of a person's personality. Personality himself regarded as a component of overall social knowledge which provides an explanation of how human

beings understand the behavior, emotion and motivation itself. Self-personality becomes the basic behavior of everyday life which is realized.

Someone who becomes entrepreneurs is the ones who know the self-personality and learn to develop their potential to capture new opportunities and organizing efforts in realizing their goals. Therefore, to be a successful entrepreneur, having talent is not enough but also must have knowledge of all aspects of the business to be practiced in the educational process of entrepreneurship, including entrepreneurial personality. Entrepreneurial individuals appear if someone dared to develop businesses and new ideas.

Student's personality related to entrepreneur character with a production-based learning approach:

Related research with personality in entrepreneurship has been much-researched (Mathieu and E. St-Jean, 2013; Verheul *et al.*, 2012; Brandstat, 1997; Rauch and Frese, 2007; Zhao and Seibert, 2006). However, the tendency of many entrepreneurial personalities influenced by the environment created (Ibrahim and Goodwin, 1986). Research in the application of technology for learning entrepreneurship with production-based learning approach has already been done (Yuliana and Hidayat, 2018) with the personality of students in higher education (Yuliana, 2017) and learning entrepreneurship with production-based learning approach (Hidayat *et al.*, 2018). Furthermore, in this study, the personality of the students is related to the entrepreneurial character. It covered ten aspects which are divided into three main parts such as, communication skills (skills speaking, the quality of speech, the content of speech, sense of humor), the added value (unreliable had been more potential) and teamwork (close faster to others, be willing to go along).

In the implementation of science and technology for entrepreneurship with the production-based learning approach, the personality of students, especially in communicating with fellow students and instructors will be different from each other. This difference is entirely influenced by the environment in higher education, community and family. Entrepreneurial personality, especially in the speaking skills, the quality of speech and speech content becomes a sense of humour in communicating research and very interesting entrepreneurial personality. The results from the questionnaire distributed analysis obtained entrepreneurial personality in terms of communication skills is still low. It is certainly very influenced by many factors. One of these students is still low confidence. Insight and experience in the community interaction are still lacking. Students who have a high entrepreneurial spirit certainly, the root which is always an evaluation and correction of communication quality as the communication person, is

a unique personality trait. Every human being has a different way of communicating, uniqueness and distinction of this come together in someone's personality. One example of how to communicate in an entrepreneurial is seen when someone presenting work and their business projects.

Different with the personality of student's entrepreneurship, especially in the aspect of the students 'value-added (unreliable have been more potential), students` Personality that has potential and can influence is a major capital for success. There is no exception in entrepreneurship because of it, indirectly student's own personality a leader. In the implementation of science and technology for entrepreneurship with the production-based learning approach, it can be seen that students who have potential and reliable. Therefore, the tendency has indirectly become the leader in their group. In addition, the implementation of science and technology for entrepreneurship, it can be seen the ability of student's creative and they have the innovation. The situation of where students are much needed and reliable (Okpara, 2007; Galloway *et al.*, 2015; Wang *et al.*, 2016). When someone has added value, there that can be relied upon, there are strengths and potential actually becomes a personality inherent in a person.

Furthermore, quality and teamwork is one aspect that is no less important. Great company, great organization work actually built by a strong and solid team. Teamwork in entrepreneurship is defined as processes that are complementary and mutually assist in the working group. Good teamwork will certainly show the maximum work. The students who are accustomed to working in team tend to be successful in building a successful entrepreneur. On the implementation of entrepreneurship with science and technology with the production-based learning approach already looks good teamwork in the process of learning and activities at work project. Given production-based learning facilitates the students to work in working groups and training for teamwork, as well as to foster interest in entrepreneurship (Kusumaningrum and Hidayat, 2016). Entrepreneurial interests that have emerged will have an impact on the seriousness of the students in entrepreneurial learning, so, it has the impact on learning outcomes of entrepreneurship education (Kusumaningrum *et al.*, 2017; Hidayat, 2017a, b; Ganefri *et al.*, 2017; Yulastri and Hidayat, 2017; Yulastri *et al.*, 2018).

CONCLUSION

Personality conditions of students in the implementation of science and technology for entrepreneurship with production-based learning approach in higher education are very good. The personality of students who have the entrepreneurial character in the

development of entrepreneurship education and training in higher education is needed, so, it expects higher-education graduates could create jobs. Student's personality change in entrepreneurial activity with the production-based learning approach is influencing the change in attitude and mindset of students, so that, students can determine the direction of future success, particularly how students think and manage their mindset. Application of entrepreneurship education and training in higher education can gradually change the mindset of students from graduation to find work turned into a pass to create jobs. Communication skills (skills speaking, the quality of speech, the content of speech, sense of humor), added value (unreliable had more potential) and teamwork (close faster to others, be willing to go along) become part of the personality of the students in the implementation of entrepreneurial activity with production-based learning approach.

Thus in the implementation, it is time for the higher-education concern on student's personality because student's personality has an impact on the mindset and success in the future. In addition, educators in higher education, especially teachers in entrepreneurial learning to be proactive towards the personality development of students, many of the students have a personality that would not be successful, lazy work and activities. This negative personality should be directed to the positive personality, so that, morale and potential students will emerge and survive in society.

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