The development of students’ entrepreneurial attitudes in the learning of milk kefir processing

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The development of students’ entrepreneurial attitudes in the learning of milk kefir processing

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Abstract. This research aims to analyze students’ entrepreneurial attitudes in the learning of milk kefir processing. The method used is a one-shot case study, conducted to 97 students in the sixth semester of Chemistry Education Department of Universitas Islam Negeri Sunan Gunung Djati Bandung. The instrument used is in the form of questionnaires on students’ entrepreneurial attitudes. The results show entrepreneurial attitudes included in the very strong category with an average percentage of 87%. This is because students are able to be responsible when experiencing several obstacles, for instance, by reporting to researchers when the resulted product has not been successful and evaluating the steps of making the product to avoid the same failure in the future. In addition, they are also able to design and plan entrepreneurial strategies so that they can achieve their goals.

1. Introduction
In this globalization era, the Indonesian nation faces problems in dealing with unemployment, especially youth unemployment at the productive age of 16 to 30 [1]. Based on data from the Central Bureau of Statistics in August 2015, unemployed vocational school graduates reached the highest percentage of 12.65%, followed by high school graduates 10.32%, junior high school graduates 8.32%, university graduates 5.82% and then elementary school graduates 3.72% [2]. These data show problems of graduates, one of which is the need for soft skills to improve entrepreneurial skills. Thus, it is necessary to implement entrepreneurship education to overcome these problems [3].

The results of the preliminary study conducted to sixth semester students of Chemistry Education Department of Universitas Islam Negeri Sunan Gunung Djati Bandung, having taken entrepreneurship courses, show that they have been able to produce their own products, however, there is no product produced from the development of food technology using chemistry concepts. Whereas, it is important to implement the application of food technology using chemistry concepts in order that they are able to produce food by paying attention to its processing and good nutrition to avoid harmful chemicals [4].

According to Azizah, et al., [5] one of the products produced from the application of food technology using chemistry concepts is milk kefir. Milk kefir is a product produced from fermented cow, goat, and sheep milk pasteurized using a starter in the form of kefir grain with yeast producing acid and ethanol [6]. Milk kefir contains higher probiotics than yogurt and the like, and also has a high selling value in the community because it is needed as a beverage with many benefits. For this reason, it is necessary to develop students’ entrepreneurial attitudes through the milk kefir processing in the learning process. Therefore, this paper will discuss an analysis of the development of students’ entrepreneurial attitudes through the milk kefir processing.
2. Experimental Method
The research method used is a one-shot case study [7]. In addition, this research uses a project-based learning model. The subject of this study includes 97 students in the sixth semester of the Chemistry Education Department of Universitas Islam Negeri Sunan Gunung Djati Bandung, consisting of 12 men and 85 women. The reason for conducting this research to the sixth semester students is because they are taking courses related to this research, namely entrepreneurship courses. Data are obtained after learning the milk kefir processing, by asking the students to fill out questionnaires on entrepreneurship.

3. Results and Discussion
Students’ entrepreneurial attitudes can be seen based on six indicators, namely: 1) Leadership; 2) Confidence; 3) Risk taking; 4) Orientation toward tasks and results; 5) Originality and 6) Orientation toward the future. Overall, the percentages of students’ entrepreneurial attitude indicators obtained from the questionnaire results can be seen in Table 1.

| No | Indicator | Descriptor | Class A  | Class B  | Interpretation |
|----|-----------|------------|---------|---------|----------------|
| 1  | Leadership| Responsibility | 86,69   | 89,27   | Very Strong    |
| 2  | Confidence| Optimism and independence | 83,67   | 87,08   | Very Strong    |
| 3  |          | Tenacity and hard work | 85,71   | 88,58   | Very Strong    |
| 4  | Risk taking| Speculation and interest in challenges | 84,29   | 87,71   | Very Strong    |
| 5  | Originality| Innovative and creative | 86,67   | 88,33   | Very Strong    |
| 6  | Orientation toward the future | Perceptive and desirous of being successful | 84,29   | 87,71   | Very Strong    |
|    | Average   |            | 85,30   | 88,23   | Very Strong    |

Based on the data in Table 1, it can be seen that the indicator of leadership with the descriptor of responsibility obtains the highest percentage in both class A and class B, namely 86.69% and 89.27% respectively. This is because students are able to be responsible when experiencing several obstacles, for instance, by reporting to researchers when the resulted product has not been successful, and evaluating the steps of making the product to avoid the same failure in the future. In addition, students are also able to design and plan entrepreneurial strategies so that they can achieve their goals. This is in accordance with the research by Ida Ayu Brahmasari & Agus Suprayetno [8] that leadership can affect someone’s performance in entrepreneurship. It means that good leadership can boost subordinates’ motivation to work better to achieve goals and be responsible for every activity carried out so that the performance of the subordinates can be well coordinated.

Meanwhile, the indicator of confidence with the descriptor of optimism and independence obtains the lowest percentage in both class A and class B, namely 83.67% and 87.08% respectively. This is because students tend to be unsure about starting a business through milk kefir processing. One of the efforts to make them confident in entrepreneurship is by giving prior knowledge about the products to be sold and teaching selling skills. In entrepreneurship, confidence is the main capital because it can motivate someone to be more advanced in developing a business. This is in line with the research by Wijaya [9] that self-confidence is the most important entrepreneurial attitude in managing a business, leading human resources, and starting a business. Confidence itself can be increased by providing knowledge and entrepreneurial skills.
In this research, the product produced is processed milk kefir. The reason for choosing processed milk kefir is because it has a higher probiotic content than yogurt and the like. Probiotics in the large intestine can treat inflammatory bowel disease, prevent colon cancer and lower the cholesterol level. In addition, kefir also has a high selling value in the community because it is needed as a beverage with many benefits [10].

![Graph of Results of Questionnaires on Students’ Entrepreneurial Attitudes](image)

**Figure 1.** Graph of Results of Questionnaires on Students’ Entrepreneurial Attitudes

Figure 1 shows that the average values of students’ entrepreneurial attitudes in class A and B are 85.30% and 88.23% respectively, included in the very strong category. It shows that most students have entrepreneurial attitudes including leadership, confidence, orientation toward tasks and results, risk taking, originality and orientation toward the future. Moreover, it shows that the indicator of leadership with the descriptor of responsibility in both class A and class B obtains percentages of 86.69% and 89.27% respectively. Compared to other indicators, this indicator obtains the highest percentage. This is because students can be responsible when experiencing several obstacles, for instance, by reporting to researchers when the resulted product has not been successful, and evaluating the steps of making the product to avoid the same failure in the future. In addition, students are also able to design and plan entrepreneurial strategies so that they can achieve their goals. This is in accordance with the research by Ida Ayu Brahmasari & Agus Suprayetno [8] that leadership can affect someone’s performance in entrepreneurship. It means that good leadership can boost subordinates’ motivation to work better to achieve goals and be responsible for every activity carried out so that the performance of the subordinates can be well coordinated.

Meanwhile, the indicator of confidence with the descriptor of optimism and independence in both class A and class B obtains percentages of 83.67% and 87.08% respectively, included in the very strong category. Compared to other indicators, this indicator obtains the lowest percentage. This is because students tend to be unsure about starting a business through milk kefir processing. One of the efforts to make them confident in entrepreneurship is by giving prior knowledge about the products to be sold and teaching selling skills. In entrepreneurship, confidence is the main capital because it can motivate someone to be more advanced in developing a business. This is in line with the research by Wijaya [9] that self-confidence is the most important entrepreneurial attitude in managing a business, leading human resources, and starting a business. Confidence itself can be increased by providing knowledge and entrepreneurial skills.

The indicator of orientation toward tasks and results with the descriptor of tenacity and hard work in class A and class B obtains percentages of 85.71% and 88.58% respectively, included in the very
strong category. This can be seen from the results obtained by students. In relation to tasks, they are very enthusiastic about the production of processed milk kefir and have a strong sense of responsibility. When the resulted product has not been successful, they report to researchers and then correct the error. As for results, marketed products are sold out in a relatively short time. They are serious about doing their business so that the results are satisfying. Entrepreneurs who always prioritize tasks and results are those who always prioritize hard work, perseverance, sincerity and orientation toward income and profits [11].

The indicator of risk taking with the descriptor of speculation and interest in challenges in class A and class B obtains percentages of 84.29% and 87.71% respectively, included in the very strong category. This shows that students have great courage to take risks as evidence of their high entrepreneurial attitude, meaning that most of them take into account the existing risks when making decisions to solve problems faced. They dare to compete in this globalization era by pursuing the world of entrepreneurship in chemistry when the environment is very supportive. In relation to risk taking, it is often said that an entrepreneur always loves challenges. This characteristic is brought in entrepreneurship which is also full of risks and challenges such as competition. However, all challenges must be fully faced with serious calculation [11].

The indicator of originality with the descriptor of innovative and creative obtains percentages of 86.67 and 88.33% respectively, included in the very strong category. This shows that students are able to innovate and be creative in making products. One of the creative efforts made by students is making various variations of processed milk kefir packaged attractively so that many consumers are interested in buying. Being innovative and creative plays an important role in developing products. Strict competition in the world of entrepreneurship requires entrepreneurs to have high creativity. In addition, the products must have distinctive and unique features compared to others to be superior. Creativity and innovation have a greater influence on entrepreneurship because they give various advantages including advantages in competing [12].

The indicator of orientation toward the future with the descriptor of perceptive and desireus of being successful in class A and class B obtains percentages of 84.29% and 87.71%. This means that students have an interest in developing processed milk kefir on a larger scale. They consider that capital is not the main requirement for a person to build entrepreneurial attitudes but more importantly the ability and willingness of the person to be an entrepreneur. The future of entrepreneurs is described to be bright. Growing and instilling entrepreneurial spirit in students are expected to motivate them to be strong, tenacious and independent entrepreneurs [13].

4. Conclusion

The research results show that students’ entrepreneurial attitudes in project-based learning overall can be included in the very strong category with an average value of 86.76%. Entrepreneurial attitude with the highest percentage is in the leadership indicator, namely 87.98%. While the lowest percentage is in the indicator of confidence, namely 85.37%.

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