



The Influence of Final Project Product Development on Students' Entrepreneurial Motivation

Murniati, D.E.^{1*}, Purwanti, S.¹, Handayani, T.H.W.¹, Harsana, M.¹, Razzaq, A.R., Rohiat, M. A.²

¹Universitas Negeri Yogyakarta, Kampus Karangmalang, Jalan Colombo 1, Yogyakarta, 55241, INDONESIA

²Universiti Tun Hussein Onn Malaysia, 86400 Parit Raja, Batu Pahat, Johor, MALAYSIA

*Corresponding Author

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Abstract: While entrepreneurship education in the university gained its importance as an effort to develop the entrepreneurship of the younger generation, the majority of unemployed in Indonesia are undergraduate graduates. The students of the Culinary study program of Universitas Negeri Yogyakarta (UNY) are required to take the Final Project course in the form of Project-based learning. In this course, each student is given a project to develop a new food product innovation following the rules of Research and Development (R&D) steps with the 4 D method, namely define, design, develop, and disseminate. This product is expected to be a superior product for culinary students so that students can become entrepreneurs by making a real business venture after graduating. This study aims to: 1) examine the student's business orientation in the product development of the Final Project of Culinary, 2) investigate the entrepreneurial motivation of students, 3) determine the effect of student business orientation in the product development of the Final Project of Culinary on student entrepreneurial motivation. Survey research was employed in the study using quantitative descriptive methods and regression analysis to achieve the research objectives. The sample was calculated using the Slovin formula from a total population of 120 people in order to obtain a sample count of 103 people. The results show that: 1) the student's final project product development business orientation was in the good and moderate categories. The highest mean is obtained in the aspect of product formulas and ingredients for the product, while the lowest mean is obtained in the aspects of technology used for product manufacture, 2) the student entrepreneurial motivation is in the medium and high category in the general motivation aspect, while in the specific motivation aspect there are low, medium and high category results. The highest mean is in the need for achievement while the lowest mean is in the goal setting, 3) the final project product development has a positive and significant effect of 28% on students' entrepreneurial motivation. Suggestions based on the findings are also discussed.

Keywords: Entrepreneurship education, final project, project-based learning, culinary

1. Introduction

Entrepreneurship is seen as one of critical components to promote a country's economic development as well as creativity and competitiveness globally. Hence, entrepreneurship education becomes a more emerging interest (Boldureanu et al., 2019). Higher education is seen as a center of knowledge and plays an important role in the development of a nation. Entrepreneurship education in the university gained its importance as an effort to develop the entrepreneurship of the

younger generation. Universities have an irreplaceable role in creating an entrepreneurial culture in Indonesia (Ardianti, 2009; Genoveva, 2019). The first reason is that campuses are the main terminal for educated young people to enter the job market. Secondly, the campus is the best place to carry out human resource development. Lastly, campus has a group of human resource educators who are committed to developing the potential of the younger generation. However, in reality the majority of unemployed in Indonesia are undergraduate graduates, while undergraduate graduates are less interested in creating jobs or becoming entrepreneurs. In the last 3 years, the Central Bureau of Statistics of Indonesia showed evidence of the high contribution of university graduates from undergraduate to doctoral levels to the unemployment rate in Indonesia as illustrated in Table 1 below. The vocational education contributes the highest unemployment rate. In fact, graduates of vocational education are given a variety of knowledge and attitudes that are necessary in both the workplace and in everyday life (Setiyo et al., 2020). Furthermore, the unemployment rate for university graduates is still above the national unemployment rate (Badan Pusat Statistik, 2022) at 5.83% on the beginning of year 2022.

Table 1 - Unemployment rate by education background

Education background	2019	2020	2021
No/Never Schooled/Not Graduated & Graduated from Elementary School	2.39%	3.61%	3.61%
Junior high school	4.72%	6.46%	6.45%
General senior high school	7.87%	9.86%	9.09%
Vocational high school	10.36%	13.55%	11.13%
Diploma I/II/III	5.95%	8.08%	5.87%
University	5.64%	7.35%	5.98%

Source: The Central Bureau of Statistics (2022).

Entrepreneurship education will encourage innovation talents which are an important key for future development (Wei, Liu, & Sha, 2019) including economic and social development (Farhangmehr, Gonçalves & Sarmiento, 2016) as well as create new jobs (Keat, Selvarajah & Meyer, 2011). This means that a positive response to entrepreneurship will significantly depend on entrepreneurial awareness, which in this case can be achieved through entrepreneurship education (Odora, 2015). Honig (2004) and Titrek et al., (2018) also highlight that entrepreneurship education facilitates students to produce successful business planning. According to Bae et al., the entrepreneurship motivation and interest can be achieved by such pedagogical elements, thus resulting in better self-efficacy (Zhao, Seibert & Hills, 2005) and greater expectations of success (Stumpf, Brief & Hartman, 1987).

A finding of Ibrahim et al. (2015) stated that entrepreneurship is very crucial for country's development strategy, while vocational education provides a range of skills to assist students start the venture. Hence, entrepreneurship education should be directly or indirectly inserted in the TVET curriculum in many countries. The purpose is to allow graduates in the job market competition or to create self-employment. As a matter of fact, TVET is capable of producing skilled workers and creating alternative employment to be an entrepreneur. A study of Stadler & Smith (2017) proved that entrepreneurship learning in vocational education support sustainable economy and poverty reduction. As Farhangmehr, Gonçalves & Sarmiento (2016) emphasize, entrepreneurship education demands specific skills, therefore, it is very relevant to be applied to vocational study programs in order to more effectively support the formation of new entrepreneurs who already have certain skills and competencies. Botha (2010) stated that one form of entrepreneurship education is through learning by experimenting, in addition to getting feedback from consumers. Morris, Kuratko and Schindehutte (2001) also argue that entrepreneurship education can be pursued not only through theories and concepts, but also through its application in real-world projects. Sun & Kim (2022) prove the entrepreneurship education is applicable by project-based learning approach in the product design courses. Project-based learning is succeeded to develop entrepreneurship skills of students in the university (Chemborisova et al, 2019).

The Culinary study program is one of the study programs at the Faculty of Engineering, Universitas Negeri Yogyakarta (UNY) which has two programs, namely undergraduate and diploma. The diploma study program is expected to be able to become a professional catering practitioner or entrepreneur. In detail, the competency profile of graduates of the Culinary FT UNY study program states that graduates are expected to be able to master technical skills in the culinary field, have managerial abilities related to the culinary profession, be able to develop food business development, be able to develop and research food, and be responsible for the profession. (ft.uny.ac.id). To make it happens, students are required to take the Final Project course in semester 6 which is an implementation of project-based learning. In this course, each student is given a project to design 1 new food product according to the rules of the Research and Development (R&D) steps with the 4 D method, namely define, design, develop, and disseminate. Creativity and innovation really support the origin of product ideas, so that they can become products that are accepted and liked by consumers. The resulting products are priced and displayed with packaging and nutritional value information labels so

that they are ready to be marketed. Exhibition visitors were asked for their comments about this product and gave an assessment of their favorite level. This product is expected to be a superior product for culinary students so that students can become entrepreneurs by making a real business venture after graduating.

However, the students' Final Project products only ended up at the exhibition table without any real business idea continuation. From preliminary observations made to several students, the lack of confidence and motivation to make the product into a real business venture was the main obstacle. Considering the importance of the role of the Final Project course which produces new food products as a characteristic of Culinary graduates and to support entrepreneurial competence, it is necessary to have an in-depth investigation of the effect of product development of the Final Project Culinary on student entrepreneurial motivation. The current study aims to examine the student's business orientation in the product development of the Final Culinary Project, investigate the student entrepreneurial motivation, and determine the influence of student business orientation in the product development of the Final Culinary Project on students' entrepreneurial motivation.

1.1 Entrepreneurship Education

Entrepreneurship education is thought to deliver students' perspective of the entrepreneurial concepts, as well as educate and encourage them to engage in entrepreneurial activities in the future (Mani, 2015). Entrepreneurship education builds on these concepts by initiating and emerging business competencies to facilitate the business start-up processes (QAA, 2018). Further, entrepreneurship education covers the process of improving students' capacity in such a way to generate business ideas as well as the behaviors, attributes, and competencies to make them a reality. It encompasses a variety of entrepreneurial emotional, intellectual, social, cultural, and practical behaviors, attributes, and competences.

So far, the reasons why teaching entrepreneurship is important in the university have been viewed primarily from an economic standpoint (Lackeus, 2015). In the current challenge the evolution of educational technology, educators can utilize a range of media to deliver the learning effectively (Anggraeni et al., 2021). In the university, students can be strongly motivated by providing value to others with the knowledge they gain, which can allow deeper learning and relevant practices. Therefore, students who demonstrate a strong interest and skills for value creation can subsequently pursue suitable courses to assist them in establishing the business. Studying enterprise and entrepreneurship courses at higher education offer a number of advantages. It provides students with new understanding on their career preferences, as well as the confidence to start their own business (QAA, 2018).

Indeed, higher education plays a key role in creating and disseminating entrepreneurial knowledge and skills, providing students with the entrepreneurial skills needed (Rossano et al., 2016). Entrepreneurial skills are defined as important attributes of graduates that students must learn and use in the future (White et al., 2017). Entrepreneurship education is important not only for shaping the thinking of young people, but also for creating opportunities, ensuring social justice, building trust and improving the economy (Shahiwala, 2017). From the literature review, it has been revealed that entrepreneurial skills are divided into four groups: entrepreneurial, technical, managerial skills and personal maturity (Durkin & Gunn, 2016). The level of education and training required for the development of these skills is highly dependent on human capital, which people may have before starting a business (Martin et al., 2013).

Higher education is aimed at a foundation of relevant practical knowledge that will help students understand and acquire entrepreneurial skills (Samerkhanova et al., 2016). The skill groups in question including technical skills, managerial skills, entrepreneurial skills, and personal maturity skills (Kutzhanova et al., 2009; Koe et al., 2018).

1.2 Entrepreneurial Motivation

In a simple term, motivation can be interpreted as encouragement. Meanwhile, achievement motivation is a theory introduced by David McClelland. The basis of his theory is still based on Maslow's theory of needs, but he tries to crystallize it into three needs:

- i. Need for Power (nPow)
- ii. Need for Affiliation (nAff)
- iii. Need for Achievement (nAch)

Entrepreneurship is the result of a disciplined, systematic process to dare to apply creativity and innovation in meeting market needs and opportunities (Zimmerer, 1996). Entrepreneurial motivation can be seen as a goal that an entrepreneur wants to achieve through his business ownership (Robichaud, Mc. Graw and Roger, 2001). This entrepreneurial motivation will determine entrepreneurial behavior and subsequently indirectly determine the success of his business. According to Dan Steinhoff & John F. Burgess (1993), there are seven indicators of entrepreneurial motivation, namely: (1) the desire to get a better income, (2) the desire to get a more satisfying career, (3) the desire to be independent, (4) desire to gain prestige by becoming the owner of a business venture, (5) desire to carry out new ideas / concepts, (6) desire to gain long-term wealth, (7) desire to contribute to society.

Motivation is the main capital for entrepreneurs. Because an individual's motivation is driven to make efforts in relation to utilizing rice husk waste and he will eventually develop it as a business opportunity, which can increase product sales to improve the farmer's economy as well as to solve environmental problems. Ryan and Deci (2000) show that motivation is at the core of biology, cognition, and regulation. Motivation involves energy, desire, activation of energy,

and motives. Louart explained that motivation is expressed as a relationship between the activation of internal energy and that expressed in business creation (Estay, Durrieu & Akhter, 2013). Research on entrepreneurial motivation is an important aspect of the entrepreneurial process (Carsrud & Brannback, 2011).

In Louart's (1997) approach, motivation is considered as the relationship between external activities and energy transfer towards business creation. Riyanti (2003) clearly explains that entrepreneurial motivation is a strong impetus in a person to prepare himself for work, to have business awareness so that he puts more attention in it and then voluntarily engages in entrepreneurial activities independently. In addition, entrepreneurial motivation will also be reflected in self-confidence, future-oriented to succeed in the business field by keeping in mind the right capacities, strengths and planning. Without entrepreneurial motivation, a person has no desire to learn and be creative, let alone be productive. Entrepreneurial motivation can also influence entrepreneurial behavior, namely: the impact of individual choices, which include behavioral tendencies and intensity in business, the importance of individual education, and the desire to achieve goals (Braga, Proenca & Ferreira, 2015). Different motivations can also influence entrepreneurial processes such as men's perceptions of possible business risks and opportunities, which in turn influence their decisions to run a business (Shane & Venkataraman, 2000).

1.3 Final Project Product Development

Final Project is a compulsory course with a weight of 3 credits taken by undergraduate and diploma level students. This course is offered for 6th semester students so for the diploma level, this course is also a final prerequisite for graduation. Students are expected to be able to pour all their knowledge, experience, and skills while attending lectures in the study program to create new products in this Final Project. The output of this course is the development of new products for each student to be ready to be marketed and used as a business after graduation. This study examines the product development of students' Final Projects through the stages of new product development as in the Figure 1 as follows.

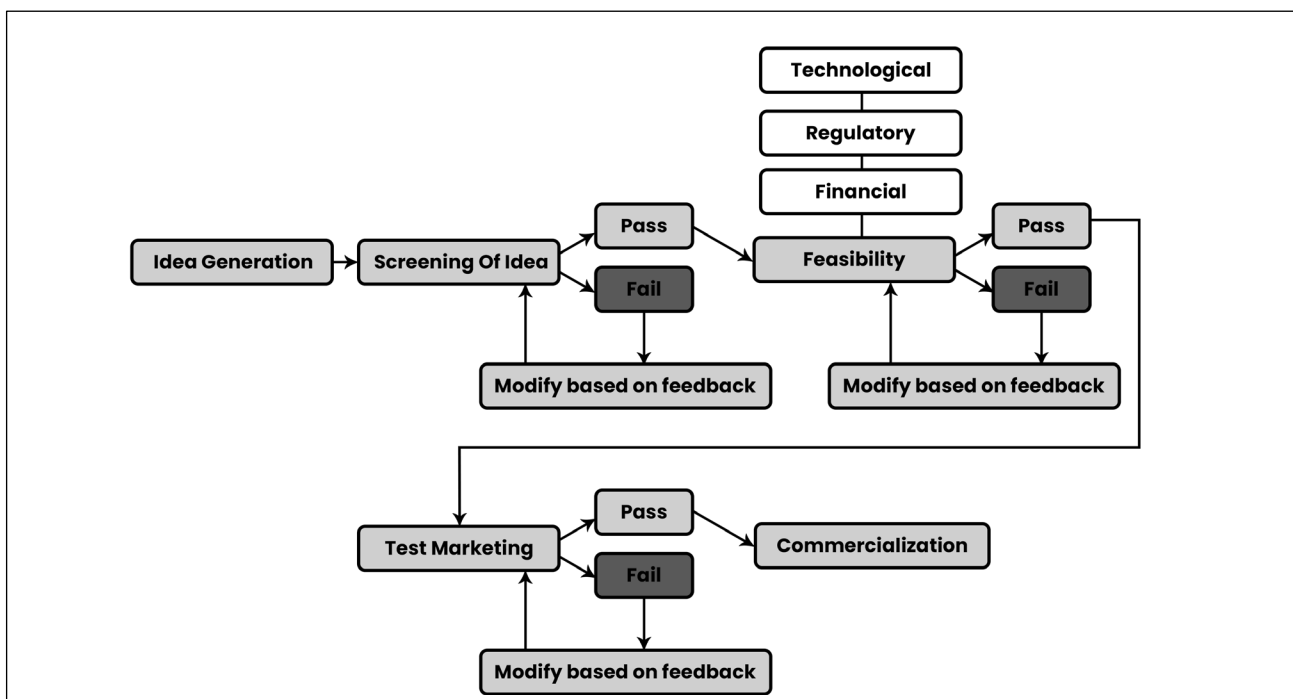


Fig. 1 - Product development process (Aramouni, F & Deschenes, K., 2015)

After going through these stages, the product is expected to be ready for sale. In addition, the final project product is expected to be the excellence and pride of each student as a culinary student.

1.4 Project-Based Learning

At present, in higher education learning technology projects together with other educational technologies (multidisciplinary science) become a means to involve students in cognitive, communicative, practical, and other activities to solve various problems (Tlhoale et al., 2014). Project-based learning also aims to avoid pure theory. Project-based learning is based on active and interactive teaching methods (training, master classes, creative workshops, business games, case studies). This helps students organize their activities, interact, gain skills in teamwork, and manage time. The development of entrepreneurial skills at universities is related to improving critical thinking skills, problem solving, and job placement skills (Wilmore & Willison, 2016; Willison et al., 2017). These skills are often referred to as general

skills. Active skills development is carried out based on project-based learning using a curriculum, starting with a small training session and finishing with a large project (Dodds et al., 2016). The following are important components found in project-based learning. Project-based learning is learning outside the classroom in a longer period of time, which facilitates group assignments, activities that lead to problem solving, teachers or educators act as facilitators, and students are the owners of the project given as shown in the Figure 2 below.

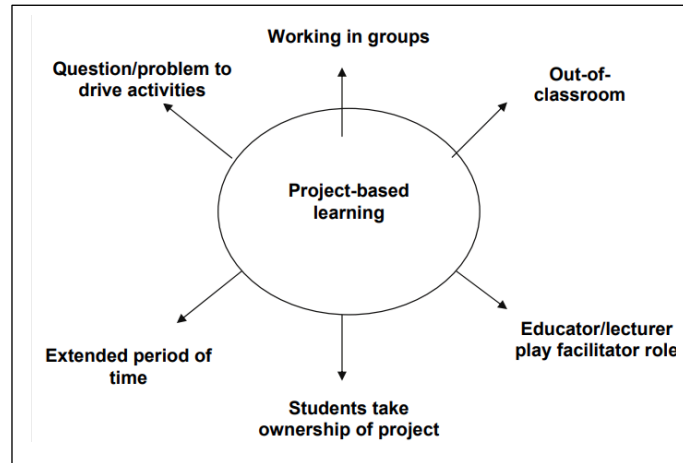


Fig. 2 - Important components in project-based learning (Blumenfeld et al in Botha, 2010)

Project-based learning is an effective teaching method in teaching entrepreneurship education (Jones, 2004; Morris, Kuratko, & Schindehutte, 2001; Botha, 2010; Dragoumanos, Kakarountas, Fourou, 2017; Panvilofa et al, 2019; Kütüm, Kallaste, Venesaar & Kiis, 2014) and fostering entrepreneurial motivation (Pilskalns, 2009).

2. Research Methodology

This research is survey research, using quantitative descriptive methods and regression analysis to achieve the research objectives. To get the first and second research objectives, quantitative methods were carried out by obtaining data from undergraduate and diploma students of Culinary, while the third objective was carried out by linear regression analysis.

2.1 Population and Sample

The study population was all students of class 2017 which consisted of 3 classes, so the total population was 103 students. While the research sample used population research so that the entire population was sampled. The Covid-19 pandemic has made research less ideal due to:

- a) Students have limitations in trying out and validating products.
- b) The broad-scale dissemination stage in the form of an exhibition cannot be carried out so that students try out their products on untrained panelists around their homes.
- c) Data collection in this research cannot be done face to face, but with a google form that is filled out online.

2.2 Research Instrument

The research instrument is a questionnaire adapted studies from Aramouni & Deschenes (2015) who suggest the process of product development, and Shane, Locke & Collins (2012) who define entrepreneurial motivation including general and task-specific motivation.

Table 2 - Instrument items

Variable	Indicator	Sub indicator
Final project product development	Idea generation	information searching ingredients customers' need
	Idea screening	product testing market acceptability
	Feasibility	technology formulation ingredients packaging cost
	Market testing	product quality final cooking final packaging price portion
Entrepreneurship motivation	Commercialization	ready to sell product
	General	need for achievement locus of control vision, desire for independence passion drive
	Task-specific	goal setting self-efficacy

A pilot study was conducted on 32 students. The construct validity test used Pearson Product moment correlation (Fraenkel, Wallen, & Hyun, 2012) with the degree of error 5%, resulting r-table 0.349. Hence, this r table value will be compared to r-value. As a result, 6 items in the questionnaire are invalid and shall be removed for further main data collection. These items have been represented by other items in the indicators hence new replacement are not required. The reliability test was held by using Cronbach Alpha formulation. According to Fraenkel, Wallen, & Hyun (2012) an instrument is said to be reliable if the Cronbach Alpha reliability coefficient value is more than 0.70. The results of the reliability test of this research instrument show the number 0.955, which means the internal consistency of the research instrument is in the very reliable category.

2.3 Research Analysis

To analyse the data, mean and standard deviation are calculated as well as the categorization of the findings on each indicator. ANOVA calculation will be employed for regression analysis. Before regression analysis is performed, normality test was employed to determine whether the research data has a normal distribution so that it can be used in parametric statistics (inferential statistics). This test will also determine whether the empirical data obtained are normally distributed (Widhiarso, 2017), so that the research results can be generalized to the population. This study uses the Kolmogorov-Smirnov test using calculations on the SPSS application. Based on the results of the following normality test, the significance value is > 0.05 so it can be concluded that the data is normally distributed and can be tested further for regression.

Table 3 - One-sample Kolmogorov-Smirnov Test

		Unstandardized Residual
	N	103
Normal Parameters ^{a,b}	Mean	.0000000
	Std. Deviation	.38384506
Most Extreme Differences	Absolute	.082
	Positive	.082
	Negative	-.064
Test Statistic		.082
Asymp. Sig. (2-tailed)		.081 ^c

a. Test distribution is Normal.

b. Calculated from data.

c. Lilliefors Significance Correction.

3. Results and Findings

Respondents in this study were students at the Bachelor and Diploma levels of the Culinary Study Program. A total of 103 respondents participated in this study. The characteristics of respondents are discussed in this study to enrich the discussion of research results, although it is not the focus of the study; as shown in the table 4 below.

Table 4 - Descriptive statistic of respondents' profile

Respondents' profile	Characteristic	In percentage (%)
Gender	20 men	19
	83 women	81
Educational background	77 general high school	75
	16 culinary vocational high school	15
	10 non-culinary vocational high school	10
Working experience	41 have working experience in culinary sector	40
	20 have working experience in non-culinary sector	19
	42 have no working experience	41
Parents' occupation	43 entrepreneurs	42
	60 non-entrepreneurs	58

This study aims to determine the business orientation of students in the product development of the Final Project of Culinary, to determine the entrepreneurial motivation of students, and to determine the effect of student business orientation in product development of the Final Project of Culinary on student entrepreneurial motivation. Business-oriented Final Project Product Development starts from the stage of idea generation, idea screening, feasibility, market testing, and commercialization. The results showed that all stages of product development were in a high percentage in the good category and only a small percentage in the medium category. In details, the following tables show each stage of achievement categorization.

Table 5 - Idea generation categorization

		Frequency	Percent	Valid Percent
Valid	"medium"	28	27.2	27.2
	"good"	75	72.8	72.8
	Total	103	100.0	100.0

The idea generation stage has indicators namely information searching, ingredients idea, and customers' need.

Table 6 - Idea screening

		Frequency	Percent	Valid Percent
Valid	"medium"	20	19.4	19.4
	"good"	83	80.6	80.6
	Total	103	100.0	100.0

The idea screening stage has indicators including product concept testing and market acceptability assessment.

Table 7 - Feasibility

		Frequency	Percent	Valid Percent
Valid	"medium"	37	35.9	35.9
	"good"	66	64.1	64.1
	Total	103	100.0	100.0

The feasibility stage includes technology, formulation, ingredients, packaging, and cost feasibilities.

Table 8 - Market testing

		Frequency	Percent	Valid Percent
Valid	"medium"	35	34.0	34.0
	"good"	68	66.0	66.0
	Total	103	100.0	100.0

Market testing stage comprises of product quality, final cooking, final packaging, price, and portion.

Table 9 - commercialization

		Frequency	Percent	Valid Percent
Valid	"medium"	12	11.7	11.7
	"good"	91	88.3	88.3
	Total	103	100.0	100.0

Commercialization stage includes ready to sell product indicator. Amongst the final project product development indicators, commercialization achieved the highest percentage of good, accounted of more than 88% good category, which is also indicated by a fairly high mean of 3.06 (as shown on table 12).

Table 10 - General motivation

		Frequency	Percent	Valid Percent
Valid	"medium"	25	24.3	24.3
	"high"	78	75.7	75.7
	Total	103	100.0	100.0

Students' entrepreneurship motivation is measured by using general and specific motivation indicators. The first indicator consists of need for achievement, locus of control, vision - desire for independence, passion, and drive. The later indicator comprises of goal setting and self-efficacy.

Table 11 - Task-specific motivation

		Frequency	Percent	Valid Percent
Valid	"low"	2	1.9	1.9
	"medium"	26	25.2	25.2
	"high"	75	72.8	72.8
	Total	103	100.0	100.0

Below is the mean calculation result for each sub indicators. The highest mean value of the Final Project product development variable was obtained from the formulation sub indicator (3.27) followed by ingredients, which was 3.22. All sub-indicators obtained a mean above 3.00, except for the feasibility indicator on technology feasibility, which is 2.91. Meanwhile, on the entrepreneurial motivation variable, the highest mean was obtained in the need for achievement sub-indicator of 3.44. However, goal setting got the lowest score, which was 2.94.

Table 12 - Mean result

Indicator	Sub indicators	Mean	Standard Deviation
Idea generation	information searching	3.08	0.58
	ingredients idea	3.14	0.63
	customers' need	3.01	0.68
Screening	product testing	3.09	0.58
	market acceptability	3.10	0.51
Feasibility	technology	2.91	0.62
	formulation	3.27	0.57
	ingredients	3.22	0.52
	packaging	3.05	0.59
	cost	3.14	0.53
Market testing	product quality	3.05	0.49
	final cooking	3.07	0.46
	final packaging	3.12	0.46
	price	3.04	0.47
	portion	3.11	0.41
Commercialization	ready to sell product	3.06	0.48
General motivation	need for achievement	3.44	0.57
	locus of control	3.21	0.60
	vision, desire for independence	3.26	0.58
	passion	3.23	0.61
	drive	3.10	0.60

Indicator	Sub indicators	Mean	Standard Deviation
Task-specific motivation	goal setting	2.94	0.73
	self-efficacy	3.03	0.68

The final project product development is a course based on predetermined theme instruction set by the curriculum. This top-down product theme, consequently, does not accommodate customers' demands, nor innovation from students or opportunities challenged by the market. Therefore, product developed based on the consumer's desire to get the lowest mean amongst the Idea generation indicators, accounted of 3.01 mean value. Among all items in the product development indicators, the technological elements used to develop the product in the feasibility stage gained the lowest score of 2.91. This is possibly contributing to the acquisition of a low mean on entrepreneurial motivation, namely the goal setting aspect as the students are not confident or not capable to apply technology to make the final project product into a real business after graduating from college

Feasibility also gets the medium category with the highest percentage among other stages, as amount of 35.9%. Although the formulation aspect of product development gets the highest mean value, the aspect of using simple technology is not sufficient to support this feasibility stage. The condition of the Covid-19 pandemic that is currently taking place during the implementation of this Final Project Product development forces students to conduct trials using makeshift equipment in their respective homes because the campus laboratory cannot provide services. In addition, lecturer guidance is also very limited due to restrictions on campus activities. Therefore, non-standard product results are the impact of the limited use of laboratory equipment. The physical facilities found in learning places are very important in the teaching and learning process (Aguokagbue, 2000; Ezegbe, 2012). Akanbi (2002) states that entrepreneurship education in higher education needs to prepare a supportive learning environment including the availability of teaching materials and teaching staff. Limitations of product development facilities in the form of laboratories, lecturer supervision, and practicum contribute low feasibility values and goal setting.

Student entrepreneurial motivation can be categorized as quite good, accounted more than 70% highly motivated, regardless the results of the research show that there is pessimism towards the sustainability of product development and commercialization after graduating from college. This finding is possibly due to several factors including gender. A study conducted by Cochran (2017) found that men were dominant in entrepreneurship programs, including at start-ups. The entrepreneurship education program has had an impact on women's self-efficacy due to their risk-averse character compared to men. In this study there were nearly 20% of male students, thus supporting the findings of previous studies which stated that male stereotypes are more open to risk management, product development, and business establishment (Duval-Couetil et al, 2014). However, studies by Ewijk & Belghiti-Mahut (2019) and Nguyen (2018) state that although women have negative stereotypes in entrepreneurship education, women's entrepreneurial interest tends to be better than men.

Entrepreneurship education has a positive impact on the formation of self-reliance and self-independence of individuals, as well as increasing entrepreneurial competence and entrepreneurial culture (Echezona, 2015). Yet, entrepreneurship education also could discourage students motivation to start up the business as they understand the entrepreneurship barriers and complexity (Farhangmehr, Gonçalves & Sarmiento, 2016). Additionally, the entrepreneurial family background has a strong influence in shaping students' entrepreneurial motivation even though the entrepreneurial family background has no impact on the effectiveness of entrepreneurship education (Georgescu & Herman, 2020). These findings reinforce the importance of good entrepreneurship education to increase the tendency of young people to choose entrepreneurial careers. This study involved students who have a family background of entrepreneurship as much as nearly 60%, which supports the results of the low goal setting on entrepreneurial motivation. Although different family backgrounds do not have a significant impact on entrepreneurial motivation (Nguyen, 2018), family businesses can be used as a forum for informal education for students to learn entrepreneurship so that they have an impact on their motivation (Georgescu & Herman, 2020). Nguyen (2018) also found that prior self-employment can increase entrepreneurial motivation, which supports the results in this study.

Entrepreneurship education or training and entrepreneurial attitudes could significantly predict students' entrepreneurial intentions. Thus, the search for information and opportunities, creativity and problem-solving skills, achievement and instrumental readiness, self-confidence and self-esteem, goal setting, entrepreneurial education and training, family background, previous business experience with family, access to finance or capital, and professional networks and contacts are considered important (Ayalew & Zeleke, 2018). Meanwhile, demographic factors such as age, gender, and marital status, and socio-economic factors such as parents' work, business background of colleagues, financial means, and external environment do not have a significant impact on the formation of entrepreneurial motivation. This study also highlights the difference between high school and vocational high school education backgrounds that reflect the ability of students to develop products. High school education background dominates as much as 70% of respondents in this study. High school education offers limited entrepreneurship education compared to vocational school. Zaidatol & Bagheri (2011) suggest that earlier age is important to be exposed for entrepreneurship education. Moreover, high school student ownership of skills is very restricted to develop and create new products, which may lead to low entrepreneurial motivation.

Table 13 - Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.536 ^a	.287	.280	5.13388

a. Predictors: (Constant), FINALPROJECT PRODUCT
 b. Dependent Variable: MOTIVATION

Based on the final project's product development, a linear regression was computed to forecast the entrepreneurial motivation. A significant regression equation was found ($F(1, 101) = 40.628, p < .000$, with an R^2 of .287). It can be inferred that the final project product development only affects as much as 28% of entrepreneurial motivation. This proves that most other factors contribute to the formation of entrepreneurial motivation. Farhangmehr, Gonçalves & Sarmiento (2016) found that to be motivated, students need to be confident in their entrepreneurship skills and competencies. The major competencies include organizing relationships, concepts, ability, strategy and commitment. Indeed, entrepreneurship education must underline psychological and social skills such as leadership, opportunity identification, creativity and innovation, analytical skills, and negotiation to enforce successful entrepreneurial activities. A study by Lee (2001) states that individual personality, experience, and partnership network factors have a significant effect on the formation of new businesses. Environmental factors also play an important role in shaping entrepreneurial motivation (Echezona, 2015) in addition to individual personalities and perceptions of entrepreneurial careers. This is due to the varied entrepreneurial image in society (Georgescu & Herman, 2020). Becoming an entrepreneur is a brave decision to leave your comfort zone as a worker, which often gets poor perceptions and support from the Indonesian family environment (Putra, 2012; Sahban et al. 2014).

Table 14 - ANOVA^a

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1070.820	1	1070.820	40.628	.000 ^b
	Residual	2662.034	101	26.357		
	Total	3732.854	102			

a. Dependent Variable: MOTIVATION
 b. Predictors: (Constant), FINALPROJECT PRODUCT

The F value in the ANOVA test shows that it is greater than the F-table (Sekaran, 2003), amounted 3.94 at the 5% confidence level. In addition, the significance level is less than 0.05 so it can be said that the independent variable (PA product development) significantly affects the dependent variable (entrepreneurial motivation).

Table 15 - Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.586	6.388		.718	.474
	FINALPROJECT PRODUCT	.345	.054	.536	6.374	.000

a. Dependent Variable: MOTIVATION

The linear regression test above showed that entrepreneurial motivation is equal to $4.586 + 0.345$ (final project product). It means that the entrepreneurial motivation increased .345 for each final project product achievement. The t-value above also supports this statement because the number is greater than t-the table of 2.369 and the significance is smaller than 0.05.

A study of Bharadwaj (2014) noted that students who have completed a technology-focused curriculum of studies possess the necessary theoretical knowledge base and hard skills. They lack entrepreneurial abilities and a business-minded outlook, though. Additionally, despite the inclusion of courses in management and entrepreneurship in the curriculum, students find these topics uninteresting because they lack a practical component (Bharadwaj, 2014). To quickly enter the employment market, young people need the chance to improve their abilities (Clamadieu, 2015).

4. Conclusion and Recommendations

The student's final project product development business orientation is in the good and moderate categories. The highest mean is obtained in the aspect of the product formula and the ingredients for the product, while the lowest mean is

obtained in the aspect of the technology used to manufacture the product. Student entrepreneurial motivation is in the medium and high categories in the general motivation aspect, while in the specific motivation aspect there are low, medium and high categories of motivation. The highest mean is in need for achievement while the lowest mean is in the goal setting. The final project product development has a positive and significant effect of 28% on student entrepreneurial motivation. Based on the conclusions above, the suggestions that can be conveyed in this study are as follows:

- a) It is necessary to emphasize the objectives of the Final Project product development, which should be preceded by a market / consumer orientation planning until the product commercialization stage so that the resulting product is truly marketable.
- b) There is an urgent need to strengthen students' insights regarding orientation after graduating from college by considering entrepreneurship as a career choice.
- c) Program designs that facilitate entrepreneurship education to change the mindset, attitudes, and intentions of students for a career as entrepreneurs are significantly important.
- d) The need to strengthen aspects of entrepreneurship education in the classroom by familiarizing with the real market / consumer situation, one of which is structured, and measured project-based learning is clearly required.

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