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## ENTREPRENEURSHIP EDUCATION AND ENTREPRENEURIAL COMPETENCIES AMONG UNIVERSITY STUDENTS

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#### **ABSTRACT**

This paper highlights the relationship between entrepreneurship education and entrepreneurial competencies among It has been known that entrepreneurial competencies among graduates are still questionable and still largely unexplained. Entrepreneurship competencies may help the graduates to reduce the unemployment rate. Entrepreneurship education was represented by teaching method and infrastructure facilities and resources. A number of 108 students of Bachelor of Entrepreneurship (Hons.), Universiti Utara Malaysia (UUM) Sintok were identified as the sample of the study. Data has been analysed using Pearson Correlation and multiple regression analysis under Statistical Package of Social Science (SPSS). The results have shown entrepreneurship education dimension that consists of teaching methods and infrastructure facilities have positive relationship with entrepreneurial competencies among students.

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#### 1. Introduction

Prime Minister's Department of Statistics Malaysia reported that there were 5.13 million and 5.36 million of graduates in year 2019 and year 2020 respectively (Department of Statistics Malaysia, 2021). The statistics recorded that the percentage of graduates unemployed increased from 3.9% up to 4.4% from year 2019 to year 2020. There are several ways identified to overcome this problem. Entrepreneurial competencies have been a way to reduce the unemployment issue in graduates. The competencies possessed by the university students can be served as motivational factor for them to start their own business (Bikse & Riemere, 2013). Besides, a creation of new venture will provide more job opportunities. This will help to reduce the rate of unemployment among graduates as well as non-graduates (Haziq, 2017). The entrepreneurship education can help to improve students' understanding of business regarding to its purposed, the structure as well as its role in helping to develop the economy level in Malaysia. According to Rani (2014), the entrepreneurial competencies among graduates nowadays are still questionable and need further explanation. The problem of lack of entrepreneurial competencies among university graduates will result in difficulty for them to venture into new business and to ensure sustainability of the business (Raduan, Kumar, & Yen, 2006).

The situation has been seen worsen as the method that used to teach entrepreneurship is obsolete, bland, and uninspiring (Othman & Nasrudin, 2016). Therefore, this will discourage creativity of the students and lower the interest towards entrepreneurship especially when the traditional methods of using textbook as the main approach of teaching the student. Furthermore, the infrastructure facilities and resources which are available in public universities has become less conducive towards entrepreneurship due to the less focus given by the administrative departments on the facilities and resources (Othman and Nasrudin, 2016).

#### 2. Literature Review

Several factors have been identified under entrepreneurship education towards developing entrepreneurial competencies. Those factors will be discussed in the next section.

#### **Entrepreneurial competencies**

Entrepreneurial competencies can be defined as the totality of an individual's personal liabilities, qualities and skills that ensures a successful entrepreneurship (Bikse & Riemere, 2013). These entrepreneurial competencies can be developed through a proper education and training and has been seen to be essential in enhancing entrepreneurs' quality (Bikse & Riemere, 2013). The development of entrepreneurial competencies must be encouraged by educational institutions to increase the capacities of individuals to grow organisations and to create new employment prospects.

Despite of the variability and differences in the definition, it has been observed that the term competence consistently related to the knowledge, skills, attitudes, and motivations as dimensions that competent entrepreneurs must be able to use in order to deal with the tasks and problems related to their entrepreneurial actions (Mitchelmore & Rowley, 2010). For the purpose of the present study, entrepreneurial competencies can be defined as the totality of an individual's personal liabilities, qualities and skills that ensures a successful entrepreneurship (Bikse & Riemere, 2013). These competencies involve the ability to introduce creativity and innovation, communication, organization, project management, action planning and risk-taking skills (Othman & Nasrudin, 2016). Entrepreneurial competencies have been recognized as a definite group of competencies appropriate for an entrepreneur to be successful (Valerio, Parton, & Robb, 2014). There are studies that has been conducted which organised entrepreneurial competencies into different competency domains in which under each domain consists of different competencies which are personal attributes, knowledge, and skills (Ahmad, 2013).

Entrepreneurial competencies are developed through a proper training and education and are essential to enhance entrepreneurial quality (Bikse & Riemere, 2013). The enhancement of entrepreneurial quality can lead to enhance entrepreneurial competency. The importance of developing competencies has been recognized and concern for the policy makers for business support and economic development (Jain, 2011). Thus it shows that other than reducing unemployment rate, individual with entrepreneurial competency can help to develop a better nation.

#### **Entrepreneurship Education**

Higher educational institutions (HEIs) through the dimensions of entrepreneurship education such as the teaching methods and infrastructure facilities and resources have been seen to give impact on the entrepreneurial competencies among university students (Othman & Nasrudin, 2016; Ibrahim, Rahman, & Yasin, 2014). The reason of enhancing entrepreneurial knowledge as well as enterprise development is to help the individual to build up their confidence level and also to develop the skills that will assist them to be more effective in the future (Fadhil,2017) The effect of entrepreneurship education in developing entrepreneurial competencies may be evaluated in terms of teaching methods, infrastructure facilities and resources.

#### **Teaching Method**

There are few different approaches proposed by different researchers for teaching methods, in terms of delivering the required entrepreneurial knowledge and skills to students (Asghar, Hakkarainen, & Nada, 2016). Despite of different approaches for teaching entrepreneurship, the educational institutions must ensure that the method used for training delivery is suitable to the ability of the students and not burdensome to them (Ibrahim, Rahman, & Yasin, 2014). There have been claimed to be lots of approaches to teach entrepreneurship ranging from the conventional approach such as textbooks, examinations to unconventional like business plan, life histories of working entrepreneurs, guest lecturers and field study or visiting to business organisations (Jabeen, Faisal, & Katsioloudes, 2017; Asghar, Hakkarainen, & Nada, 2016; Ramayah, Ahmad, & Char, 2012).

Despite of different approaches for teaching entrepreneurship, the educational institutions must ensure that the method used for training delivery is suitable to the ability of the students and not burdensome to them (Ibrahim, Rahman, & Yasin, 2014). According to Judith et al. (2012), there are three teaching techniques that need to be focus on which is the first technique is "the use of didactic methods such as lecturers, stipulation of selected readings, text books and seminars that allows for the stipulation of new information which achieves the cognitive objectives of the programme, while second technique is the skill structure methods are used to generate increased effectiveness in the behaviour of students, which result in existing skills improvement and the development of new skills, and the last technique is discovery methods encourage learning through invention and experiential learning".

#### Infrastructure facilities and resources

Infrastructure facilities and resources has been seen to be essential in the facilitation of entrepreneurship education (Idogho & Omozuawo, 2011). The higher education institutions need to analyze properly the environment of the facilities such as the condition of the classroom in order make sure that the maximum benefits can be gained by the students from utilizing the facilities in their learning processes (Othman & Nasrudin, 2016). It was further clarified in the study by Choy, Yim, and Tan (2017) which stated that the condition for the infrastructure facilities such as lighting, comfortability, temperature, climates and technology facilities in classroom are significantly positively correlated with the student outcome. This shows that students' achievement level in higher educational institutions is also being affected by the physical environment provided to them (Jabeen, Faisal, & Katsioloudes, 2017).

Higher educational institutions should be responsible for improving and maintaining the quality of physical facilities including classrooms and workshops, training equipment, sports and recreational, cafeteria, and accommodations (Ibrahim, Rahman, & Yasin, 2014). It is broadly accepted that availability and quality of physical facilities will give positive impact on the entrepreneurial competencies among students (Ooi, Selvarajah, & Meyer, 2011).

#### **Hypothesis Statement**

Based on the relationship between constructs that have been discussed, the hypotheses are posited as below:

H1: Teaching method is positively related to entrepreneurial competencies among students.

H2: Infrastructure facilities and resources is positively related to entrepreneurial competencies among students.

#### **Theory**

The theory of Human Capital by Becker (1964) stated that skills are being developed from education and experience that will enable employees to be more productive. This theory highlights the effect of education on productivity and competencies increment of a person (Rengamani & Ramachandran, 2015). The Human Capital Theory is needed to be applied in the educational systems so that the human development can be enhanced. Kozlinska (2012) mentioned education plays a huge and important role in the nation's economy so the expenditures for education is perceived as a form of investment for the students. This means that a student who undergoes a certain period of study is investing their time, effort, and money, in order to develop himslef with the acquired competencies that is gained through the education. Therefore, improving individuals for personal and organizational efficiency and effectiveness is the focus of human capital development (Eseyin, Uchendu, & Bright, 2014).

#### 3. Methodology

This section explains on research design, population and sample, unit of analysis, pilot study and data collection.

#### Research Design

Based from three types of business research which is exploratory, descriptive, and explanatory research (Sekaran, 2003), the current study employed explanatory type of research. This is because the study sought to determine the relationship that exists between teaching methods, infrastructure facilities and resources and entrepreneurial competencies. Moreover, the study also used a questionnaire survey design instruments adapted from existing literature which is part of the quantitative approach. Quantitative design is a systematic empirical approach to investigate social phenomena that used statistical or mathematical based methods that allow to test the relationship between the research variables (Given, 2008; Kreuger & Neuman, 2006).

#### Population and sample

The population of the study consists of Bachelor of Entrepreneurship students Universiti Utara Malaysia (UUM). The population chosen are suitable with the topic about the relationship between entrepreneurship education and entrepreneurial competencies. UUM has been chosen as it is a Management University which offers entrepreneurship education to the students (Martin, 2016). The population included final year students of Bachelor of Entrepreneurship (Hons.) consists of 168 students. According to Sekaran (2000), sampling is a process through which any group of individuals are selected from a given population for the purpose of statistical analysis. Based on the population, the researchers randomly selected 118 students based on Krejcie and Morgan (1970). The study employed simple random sampling technique. According to Kumar (2011), this technique is the appropriate form of probability sampling for a study whose population is defined and accessible.

#### **Unit of Analysis**

The unit of analysis is at the individual level and the primary data for this study was collected through distribution of questionnaire. Respondent's feedbacks about the teaching methods and infrastructure facilities and resources become the basis for understanding the effect of entrepreneurship education on entrepreneurial competencies.

#### Pilot study

A pilot study is a structure of pre-study performed on several respondents or individuals who are able to show whether the instrument is lack in its criteria or not. In addition, the pilot test can help in detecting and correcting some problems on the instrument before the actual study is being done. The pilot study was conducted in UUM and 30 students were used as the respondents. The result of this pilot study helped the researcher to assess the level of reliability for each question in the questionnaire. Based on Sekaran (2003), the closer the alpha value to 1, the higher the reliability of the items constructed. Table 1 shows the summary of pilot study reliability analysis.

Table 1 Summary of Pilot Study Reliability Analysis

Construct			No. of Items	Cronbach's Alpha	N
Teaching Method			4	0.854	30
Infrastructure	Facilities	and	3	0.855	30
Resources					
Entrepreneurial Co	ompetencies		21	0.961	30

#### **Data collection**

The targeted respondents have been accessed through Entrepreneur Corporate Club (ECC) in UUM. This club is specially created for Bachelor of Entrepreneurship (Hons.) student in UUM. The respondents were asked to answer the questions based on structured questionnaires. Questionnaires have been developed using English language version. The process of data collection was done accordingly, in which included four stages which are the development of questionnaires, conducting pilot test, administering the questionnaire, and analysis of the collected data.

#### 4. Results

Findings of the study is explained through descriptive statistics as well as inferential analysis.

#### **Respondent's Profile**

The first stage of this study analysis is to understand the demographic background of the respondents. As a result, the need for analysing the questions that are included in the questionnaire is purposefully to examine respondents' demographic profile. The frequency and percentage of respondents by gender are 108 respondents. Male respondents who participated in this study consisted of 33 (30.6%) respondents. This is followed by the majority of female about 75 (69.4%) respondents. This situation clearly shows that the number of female respondents is significantly more than male which has participated in this study.

The result shows that majority of respondents' family are entrepreneurs which constitutes to 76 (70.4%) respondents. Meanwhile, the respondents whom there-are no entrepreneurs in their family is about 32 (29.6%) respondents. The result shows that most of the students undergoing Bachelor of Entrepreneurship are coming from a family which involves in business and they have been exposed to business world. Moreover, most of the respondents have entrepreneurial experience in which the number shows a total of 77 (71.3%) respondents from the total respondents. Meanwhile, the rest of the respondents which shows a number of 31 (28.7%) respondents do not have entrepreneurial experience.

#### **Descriptive Statistics**

Table 2 indicates the mean and the standard deviation estimation for all variables in this study. The mean for TM variable is 4.06 with standard deviation of 0.584. The mean for CTS variable is 3.98 with standard deviation of 0.619 while the mean of IFR is 3.84 and the standard deviation 0.720. Also, the mean for ECD is 3.88 and the standard deviation is 0.569. Meanwhile the lowest mean score is infrastructure facilities and resources which is 3.84 with standard deviation of 0.720.

Table 2 Descriptive Analysis of Variables

Variable	Minimum	Maximum	Mean	Std.	
				Deviation	
Teaching Methods	2.75	5.00	4.06	.584	
Infrastructure Facilities and Resources	2.00	5.00	3.84	.720	
Entrepreneurship Competencies	2.43	5.00	3.88	.569	

#### **Data Analysis**

Pallant (2010) claimed that correlation analysis is a statistical technique that explained the strength and direction of the linear relationship between two variables. Therefore, in order to determine the strength of the relationship between the variables in this study, the correlation technique has been used to understand the direction of the relationship and amount of correlation between the dimensions of independent variables and dependent variable (entrepreneurial competencies).

A Pearson Correlation analysis was conducted in order to determine the strength and direction of the relationship between the independent variables; teaching methods (TM) and infrastructure facilities

and resources (IFR), and the dependent variable; entrepreneurial competencies (ECD). Based on the result obtained, teaching methods is positively related to entrepreneurial competencies among students. Therefore, the hypothesis is accepted. The statistical finding shows the significant relationship between TM and ECD with the p-value of 0.023 < 0.05. This result is consistent with previous research in which state that entrepreneurial competencies does being affected by the teaching methods used for the students (Lopez & Perez, 2015; Mansor & Othman, 2011).

The result shows that infrastructure facilities and resources is positively related to entrepreneurial competencies among students. Therefore, the hypothesis is accepted. The statistical finding shows the significant relationship between IFR and ECD with the p-value of 0.010 < 0.05. The result from the finding is consistent with the previous studies that stated infrastructure facilities and resources affect student's entrepreneurial competencies (Choy, Yim, & Tan, 2017; Ibrahim, Rahman, & Yasin, 2014; Ooi, Selvarajah, & Meyer, 2011). In terms of the relationship strength, the result shows that teaching methods (TM) has a strong significant relationship with entrepreneurial competencies (ECD) at correlation coefficient (r) = 0.607. Meanwhile, for infrastructure facilities and resources (IFR), has a moderate significant relationship with entrepreneurial competencies (ECD) at correlation coefficient (r) = 0.572 as shown in Table 3.

Table 3
Pearson Correlation Analysis

		ECD	TM	IFR
ECD	Pearson Correlation	1	.607**	.572**
	Sig. (2-tailed)		.000	.000
TM	Pearson Correlation	.607**	1	.653**
	Sig. (2-tailed)	.000		.000
IFR	Pearson Correlation	.572**	.653**	1
	Sig. (2-tailed)	.000	.000	

<sup>\*\*.</sup> Correlation is significant at the 0.01 level (2-tailed).

The multiple regression analysis was utilized to explain the contribution of each independent variable teaching methods, infrastructure facilities and resources, to the variance of entrepreneurial competencies. The result shows that the regression equation with the predictor of R = 0.664, R2 = 0.440, R2 = 0.419. These reveal that the predictors (independent variable: variable teaching methods, infrastructure facilities and resources) contributed 41.9% variance level in explaining entrepreneurial competencies. The results show that teaching methods (TM) indicated by a beta value of (0.301) has a larger contribution in explaining the variance in entrepreneurial competencies (ECD), infrastructure facilities and resources (IFR), with beta value equal to 0.034, 0.263, and 0.180 respectively.

Furthermore, Table 4 on regression analysis shows a significant effect of teaching methods (TM) ( $\beta$  = 0.301, t = 2.305, P < 0.05) on entrepreneurial competencies (ECD) that is,  $\beta$ -value is equal to 0.301, t-value is 2.305 and the significant P-value is 0.023 which is less than 0.05. Moreover, infrastructure facilities and resources (IFR) shows an evidence significant relationship ( $\beta$  = 0.263, t = 2.624, P < 0.05), that is,  $\beta$ -value is 0.263, t-value is 2.624 and the significant P-value is 0.010 which is less than then 0.05.

Table 4
Regression Analysis

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		В	Std.	Beta	_	
			Error			
	(Constant)	1.011	.358		2.822	.006
	TM	.293	.127	.301	2.305	.023
	IFR	.208	.079	.263	2.624	.010
	R					.66 <b>4</b> ª
	$R^2$					.440
	R <sup>2</sup> Adj.					.419

Dependent variable: ECD

#### 5. Discussion

Based on the result obtained in this study, teaching methods is positively related to entrepreneurial competencies among students. Therefore, the hypothesis is accepted. The statistical finding shows the significant relationship between TM and ECD with the p-value of 0.023 < 0.05. This result is consistent with previous research in which state that entrepreneurial competencies does being affected by the teaching methods used for the students (Marques & Albuquerque, 2012; Lopez & Perez, 2015; Mansor & Othman, 2011). In order to enhance entrepreneurial competencies of the students, the method of teaching must be appropriate and suitable to the students' ability (Ibrahim, Rahman, & Yasin, 2014).

The statistical finding shows the significant relationship between IFR and ECD with the p-value of 0.010 < 0.05. The result from the finding is consistent with the previous studies that stated infrastructure facilities and resources does affect student's entrepreneurial competencies (Choy, Yim, & Tan, 2017; Ibrahim, Rahman, & Yasin, 2014; Othman et al., 2012; Ooi, Selvarajah, & Meyer, 2011). Conducive classroom, library, support services, accommodations, and cleanliness will affect student learning process as well as students' entrepreneurial competencies (Jabeen, Faisal, & Katsioloudes, 2017). Muthmainnah and Zainol (2015) suggests that an environment conducive to learning, if set up by a university, will influence the quality of learning for the students which then result in higher achievement levels and mastery of the targeted learning outcomes in students.

#### 6. Implications of study

The result of the study would contribute to literature as well as theory development. Most of the studies in entrepreneurial competencies literature examine the outcome of the business in terms of its successfulness when the entrepreneurs possessed the required entrepreneurial competencies. However, there are few studies done on how entrepreneurial competencies being developed particularly using teaching dimension. Therefore, the current study intended to contribute to the literature by using this dimension together with the teaching methods that is deemed to have effect on students' entrepreneurial competencies. The recent study supports the teaching dimensions that proposed by Othman and Nasrudin (2016) for teaching methods, and infrastructure facilities and resources. Furthermore, the recent study also equally finds support for the use of existing theory of Human Capital.

The governments can provide more fund to HEI or other supporting structures so that the institutions can provide more comprehensive entrepreneurship education for the students. The higher educational institutions need to continuously improve and maintained the facilities and resources provided to the students accordingly. Meanwhile, the lecturers should be more creative and innovative in applying methods of teaching in order to increase the students' interest towards entrepreneurship thus improve their entrepreneurial competencies.

#### 7. Recommendations for future studies

Since this study was conducted within the entrepreneurship-related specialization, so the findings are not represent the students from other field of studies. Therefore, it is recommended for future researchers to use larger sample size in order to represent the opinion of students from other disciplines. Besides that, this study was conducted in Universiti Utara Malaysia which is a public university that is located in the Northern

<sup>\*\*</sup> p < 0.05

part of the country. Due to the cultural differences between the Southern and Northern parts of the country, there is need for the future researchers to expand their studies to the other region. Moreover, the present study employed only four variables as antecedents of students' entrepreneurial competencies.

#### 8. Conclusion

The relationship between entrepreneurship education and entrepreneurial competencies among students was examined with related variables. The result analyses show that two of the variables were statistically significant. This is confirming to the prior expectation which is teaching methods and infrastructure facilities and resources. Therefore, instructors or specifically lecturers should concentrate more on improving the method of teaching in order to increase the level of entrepreneurial competencies among students. Rather than use a traditional method for teaching, the educators should innovate and be more creative in designing the teaching methods to ensure the teaching can be delivered more effectively. In conclusion, higher education institutions also should focus in improving and maintaining a good condition of infrastructure facilities and resources since this factor does contribute to the student's entrepreneurial competencies, institutions should provide a comfortable and effective environment for students.

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