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The Relationship between Entrepreneurial Education and Entrepreneurial Competency among University Students

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Abstract

Universities in Malaysia have put forth a lot of effort in developing young entrepreneurs, especially in nurturing entrepreneurial competency among the students. However, how far the presence of entrepreneurial education offered by universities has influenced the students' entrepreneurial competency is still unknown. Thus, this research was conducted to fill up the gap. In this study, entrepreneurial education comprised of entrepreneurial training programs (TP), entrepreneurial curriculum courses (CC) and entrepreneurial co-curriculum activities (CA). Meanwhile, entrepreneurial competency (EC) was collectively measured through entrepreneurial knowledge, entrepreneurial skills and entrepreneurial attitudes. In order to obtain the required data, a total of 240 university students were selected from a public university in Malaysia. They were then surveyed through self-administered questionnaires. From the descriptive and inferential statistical analyses performed, this study found that: (i) students' entrepreneurial competency level was moderately high, which indicated that majority of the students had good entrepreneurial competency level and;

(ii) entrepreneurial training programs and entrepreneurial co-curriculum activities were two important factors that influenced students' entrepreneurial competency. Therefore, this study proposed that universities should encourage students to get involve with entrepreneurship through formal and informal education which focus on hands-on practices and "learning-by-doing". In addition, the collaboration between students and the local community is also important to develop competitive young entrepreneurs.

Keywords: Competency, Entrepreneurship, Education, Students, University.

Introduction

University is an important avenue for students to develop their entrepreneurial competency. Thus, universities need to establish various platforms for students to develop their entrepreneurial thinking. Indeed, universities help to develop entrepreneurial graduates through formal education and research commercialization (Rasmussen & Sorheim, 2006). Knowing the importance of developing entrepreneurial graduates in the country, Malaysian universities are offering various entrepreneurship programs to their students. These entrepreneurship programs are crucial in shaping students' entrepreneurial competency and leadership quality (Plumly *et al.*, 2008). For example, one of the 20 Malaysian universities, which is also an entrepreneurial university, Universiti Teknologi MARA (UiTM) has started various initiatives foster entrepreneurial practices among its students. For instance, it has established Malaysian Academy of SME & Entrepreneurship Development (MASMED), Research Innovation Business Unit (RIBU), Tunas Mekar Project etc. Since so many efforts have been asserted to the students, there is a need to know how far the presence of entrepreneurial education offered by universities has influenced the students' entrepreneurial competency.

Another great challenge for most universities in Malaysia nowadays is graduate unemployment. In Malaysia, the figure of unemployed graduates is at the worrying level. The latest report released by Ministry of Higher Education (MOHE) showed that one in every four graduates (25%) was unemployed or did not manage to get a job (Raieh & Sahabudin, 2016). As expressed by the Director of Center for Entrepreneurship and Career (CEC), Universiti Malaysia Terengganu (UMT), Dr Mohd Shaari Abd Rahman, a solid solution for the unemployment of graduates in Malaysia is still lacking. Finding a solid solution for unemployment is challenging, but it is not impossible. In fact, entrepreneurship can be regarded as a solution for unemployment. However, becoming an entrepreneur requires certain personal qualities. One of it is entrepreneurial competency. As such, studies are needed to determine the entrepreneurial competency of the university students.

Based on the problems highlighted above, this paper aims at identifying the level of university students' entrepreneurial competency and to determine the influence of university's entrepreneurial education on students' entrepreneurial competency.

Literature Review

Entrepreneurial Competency

Entrepreneurs can be deemed as individuals who embark on managing, organizing, and assuming business risks. They perceive business opportunities, assume risks and spend times, efforts, funds and skills to convert those opportunities into profits (Kuratko, 2014). All successful entrepreneurs possess competency, which is believed to be a combination of knowledge, expertise and attitudes (Stoof, 2005; Kyndt & Baert, 2015). Entrepreneurial competency can be defined as knowledge, skills and attitude that affect someone's willingness and ability to perform entrepreneurial job of new value creation (Lackeus, 2013). Man et al. (2002) explained entrepreneurial competency as an entrepreneur's aggregate capacity, which consists of attitudes, skills and knowledge to perform entrepreneurial vocation successfully. In order to determine and measure the above-mentioned competency, Komarkova et al. (2015) proposed that knowledge can be assessed with reports and presentation, while skills can be evaluated by practical assessment and field work, and lastly attitudes can be assessed through discussion, group work and event. It is important to note that competency in this study is deemed as the capability that makes someone to be an entrepreneur, it is not the quality that an entrepreneur should have. The competency comprises of knowledge, skill and attitude.

Entrepreneurial knowledge in the context of entrepreneurial competency refers to the mental models and facts in regard to revolution and growth of business, finance, marketing, economic aspects (Lackeus, 2013). Cooke and Porter (2007) explained entrepreneurial knowledge as dynamic thinking which focuses on knowledge discovery or interpretation. Entrepreneurs with sufficient entrepreneurial knowledge would be less uncertain in their undertakings and have the capability to learn and adapt to changes quickly (Antocic & Omerzel, 2008). Without doubt, entrepreneurial knowledge is an important element in entrepreneurship because it helps entrepreneurs to compete with their rivals and get their businesses organized (uit Beijerse, 2000). Luckily, entrepreneurial knowledge can be disseminated and learned through lectures, reading of literatures; and can be assessed through oral or written tests and reports (Lackeus, 2013).

Entrepreneurial skills refer to the abilities of an entrepreneur to corroborate systems or practices to achieve an objective (Lackeus, 2013). Some important entrepreneurial skills include critical thinking, problem solving, risk taking, innovation, creativity and collaboration (Cooney, 2012). Indeed, today's entrepreneurs need to possess various skills such as leadership skills, public relation skills, empowerment skills, communication skills and self-understanding skills to survive in the current rapid changing economic condition (Makhbul, 2011). Of course, entrepreneurial skills are teachable and learnable. They can be learned through lectures, hands-on training and evaluated through tests, reports and job outcomes (Lackeus, 2013).

Entrepreneurial attitudes, or also known as emotion or affection, are related to the willingness of a person to take risks, learn from mistakes, handle uncertainty, be responsible to own actions and be visionary (Lackeus, 2013).

Entrepreneurial Education in Universities

Entrepreneurship literatures agree that entrepreneurship can be taught and transferred. In other words, a person can be taught or educated to be an entrepreneur, i.e.: entrepreneurs are made. Universities all over the world are providing various supports to their students in developing young entrepreneurs. For instance, universities need to provide competitive entrepreneurship education, establish industry-university co-operation and mix the inner university supports with the outer entrepreneurship support networks (Hofer *et al.*, 2013). However, the main role of universities in supporting entrepreneurship development focuses on entrepreneurship education. According to Laukkanen (2000), entrepreneurship education can be categorized into (i) education about entrepreneurship; (ii) education for entrepreneurship and; (iii) practice in education (Claudia, 2014). Education about entrepreneurship is related to formal education and mainly focuses on learning theories of entrepreneurship which can be learned through formal classes and courses. Education for entrepreneurship focuses on acquiring entrepreneurial skills through learning, with objectives of stimulating entrepreneurial process and providing necessary skills for start-up venture (Pittaway & Cope, 2007). Meanwhile, practice in education interrelated with informal education, such as co-curriculum activities and learn through experience (Claudia, 2014).

In short, entrepreneurship education has been provided to university students in many ways. Students will be able to equip themselves with valuable entrepreneurial competency either formally through training and courses or informally through co-curriculum activities. Formal training programs are important in developing competitive entrepreneurs. Sarasvathy (2001) explained that entrepreneurship knowledge can be developed through understanding (i) who they are; (ii) what they know and; (iii) whom they know. Indeed, entrepreneurs should know their own attributes, tastes, and capabilities; know the areas that they are expert in and; know the part of social media that they are in (Hofer *et al.*, 2013). Countries around the world are offering various types of entrepreneurship training programs to their students. For examples, US and several countries in Europe, the main entrepreneurship program is the Junior Achievement Young Enterprise student mini-company (SMC) program (Oosterbeek *et al.*, 2010). Meanwhile in India, Nirma Institute of Technology located in Ahmedabad has launched Nirma Labs Education Projects in 2004 under Nirma Education and Research Foundation, with aim of training and incubating entrepreneurs (Mallya, 2011). In Malaysia, one of the most notable entrepreneurship programs is Tunas Mekar Project by Universiti Teknologi MARA (UiTM). It is a unique training program which inspires graduates to become entrepreneurs through collaboration with the country's small and medium enterprises (SMEs) (Junid *et al.*, 2015).

Universities are encouraged to offer entrepreneurship as a formal curriculum course or subject in their educational modules. These entrepreneurship courses should focus on clarifying philosophies and theories relating to entrepreneurship and developing enterprising individuals (Bellingham *et al.*, 2012). For instance, in the US, universities have built up broad courses in entrepreneurship education, and fall into the three categories, they are (i) overview look of the business plan; (ii) stages of the business life cycle and; (iii) courses on business functions (Wilson, 2008). While in Malaysia, universities are offering entrepreneurship courses and programs in all levels, from diploma up to doctorate degrees (Rahim *et al.*, 2015).

Entrepreneurial extra-curricular activities can be viewed as indirect education and non-certified students exercises such as games, competitions, clubs and societies, mentoring, internships, workshops, business support, enterprise education simulation, online events and so on. These activities include actions, encounters and originality, and are natural learning-by-doing process connected to new business creation (Claudia, 2014). Co-curriculum activities are normally optional and are probably going to be custom-made to suit a variety of student audience from all fields of studies (Bellingham *et al.*, 2012). To date, universities have created various co-curricular events which enable students to learn about entrepreneurship. For examples, Training Institute for Entrepreneurship Management in Beijing practices entrepreneurship mentoring, in which graduated students who own or operate successful firms are required to provide transient positions to their advisees so that they can have the experience in entrepreneurship (Zhou & Xu, 2012). Meanwhile in Malaysia, Universiti Teknologi MARA (UiTM) has established Malaysian Academy of SME & Entrepreneurship Development (MASMED) to organise entrepreneurship activities and carry out entrepreneurship research. In addition, MASMED is also active in providing chances for students to have business experience within the campus and offer entrepreneurship co-curricular activities (Rahim *et al.*, 2015).

Entrepreneurial Education and Entrepreneurial Competency

Entrepreneurial activities, either academically or non-academically, are important in building up their own particular entrepreneurial outlook (Bellingham *et al.*, 2012). Indeed, both formal and informal entrepreneurial education, through the establishment of experiential learning and conducive entrepreneurial environment can enhance entrepreneurial competency of the students (Clark *et al.*, 2008).

Undeniably, education equips entrepreneurs with intellectual abilities to better assess and exploit chances, builds the level of self-assurance and diminishes threat (Jimenez *et al.*, 2015). As for developing future entrepreneurs, entrepreneurial education equips students with competency needed to start a venture (Hofer *et al.*, 2013). For instance, Rahim and Chik (2014) found that involvement of students with university programmes have helped them to improve ways of thinking as entrepreneurs, and led them to creative innovations. As such, it is true to say that entrepreneurship courses boost students' confidence through involvement in entrepreneurship courses (Sanchez, 2013). As Hattab (2014) claimed, entrepreneurship courses provide further knowledge and know-how in starting a business for students. In another study, Mayuran (2016) also supported that entrepreneurial training programs have a positive relationship with the performance of the entrepreneurs.

On top of formal entrepreneurial education, co-curriculum activities relating to entrepreneurship are also crucial in developing entrepreneurial competency. As Bellingham *et al.* (2012) stated, students who involved in extra-curricular or co-curricular schemes would be able to increase their entrepreneurial skills and gain more experience in entrepreneurship. Claudia (2014) also supported that extra-curricular activities have enabled students to develop positive entrepreneurial attitude

and obtain required skills in business formation. Thus, results from involvement in extracurricular activities can raise students' entrepreneurial competency (Robertson & Collins, 2003).

Based on the above studies, this study proposed that:

- H1: Outcomes of entrepreneurial training programs (TP) positively affect students' entrepreneurial competency (EC).
- H2: Outcomes of entrepreneurial curriculum courses (CC) positively affect students' entrepreneurial competency (EC).
- H3: Outcomes of entrepreneurial co-curriculum activities (CA) positively affect students' entrepreneurial competency (EC).

Research Methodology

The purpose of this study was to study the influence of entrepreneurial education on entrepreneurial competency among university students. It was conducted through survey strategy, in which it conducted a one-time survey by using self-administered questionnaires with minimal interference from the researcher.

The population of this study consists of final year students from a public university with Entrepreneurial University status. Due to the reason that elements in this study were from various faculties, proportionate stratified random sampling method was used in selecting the desired sample to ensure the representation of elements from each faculty. In determining the sample size, the researcher referred to the Table of Sample developed by Krejcie and Morgan (1970). From the table, a total of 240 samples were selected. The sample size was deemed appropriate because it was larger than 30 and less than 500 (Sekaran & Bougie, 2010).

As mentioned earlier, survey strategy was adopted in this study. Thus, questionnaire was the primary research instrument used to collect data from the samples. All questions in the questionnaire were adapted from previous studies to ensure its reliability and validity. The questions were adapted from Rodrigues et al. (2012), Gibcus et al. (2012), Mustafa et al. (2016), Rengiah and Sentosa (2016), Lekoko et al. (2012) and Co and Mitchell (2006). The questions used five-point Likert scales, ranging from "1=strongly disagree" to "5=strongly agree". Respondents were required to choose only one option that was most appropriately describe their level of agreeableness/disagreeableness on the statement.

Before the questionnaires were distributed to the sample, a pilot test was conducted to ensure the potential respondents could comprehend the questions well. The result demonstrated that questions measuring all variables were reliable with Cronbach's Alpha (α) values greater than 0.70.

Findings and Discussions

The Respondents

A total of 240 respondents have participated in this study. Majority of them were female students (n=176; 73.33%). Most of them (n=154; 64.17%) were between 21 and 22 years old. Furthermore, majority of them had working experience (n=175; 72.92%).

Means and Pearson Correlation

As mentioned earlier, the variables in this study were measured through continuous data; as such, mean values was determined and Pearson product-moment correlation analysis was conducted. Specifically, the strength of correlation between pairs of variables was determined through correlation coefficient (r). The closer the r value is to 1, the stronger the strength of correlation (Chan, 2003). The mean values of each variable and r values were summarized in Table 1. This study found that CA recorded the highest mean (m=4.04). As for the level EC, the mean obtained was 3.88. In terms of correlation, all variables were significantly correlated to each other. Specifically, TP have recorded the highest r value (0.54) with EC.

Table 1: Mean values and Pearson correlation coefficient values

	Mean	TP	CC	CA	EC
TP	3.92	1			
CC	3.64	0.50**	1		
CA	4.04	0.55**	0.47**	1	
EC	3.88	0.54**	0.36**	0.44**	1

TP: outcomes of entrepreneurial training programs; CC: outcomes of entrepreneurial curriculum courses; CA: outcomes of entrepreneurial co-curriculum activities; EC: entrepreneurial competency

** . Correlation is significant at the 0.01 level (2-tailed).

Multiple Regressions Analysis

This study has also performed a multiple regressions analysis for the purposes of testing the hypotheses proposed in the previous section. The results were presented in Table 2. The table shows that F-statistic value obtained was 28.80 (p-value \leq 0.01). Thus, it proved that the model is statistically fit. Moreover, the $R^2=0.33$ implied that the variations in EC (dependent variable) was explained by the TP, CC and CA (independent variables) as much as 33%; while other factors explained the variation as much as 67%. From the standardized beta (β) values, the results showed that TP ($\beta=0.35$; p-value \leq 0.01) and CA ($\beta=0.15$; p-value \leq 0.05) significantly influenced EC. TP was found to be more important than CA in influencing EC. However, CC ($\beta=0.07$; p-value \geq 0.05) did not demonstrate any significant influence on EC. Therefore, H1 and H3 were supported.

Table 2: Multiple Regressions Analysis

Model	Standardized β	p-value
TP	0.35	0.00
CC	0.07	0.25
CA	0.15	0.03
F Statistic = 28.80, p-value \leq 0.00		
R-square = 0.33		

Independent variables - TP: outcomes of entrepreneurial training programs; CC: outcomes of entrepreneurial curriculum courses; CA: outcomes of entrepreneurial co-curriculum activities

Dependent variable - EC: entrepreneurial competency

Discussion

Results from the previous section found that students demonstrated moderately high level of entrepreneurial competency (mean=3.88). This study deemed entrepreneurial competency comprised of entrepreneurial knowledge, skills and attitudes; students were showing rather competitive level of entrepreneurial competency. This could be possibly caused by the reasons that students have obtained the entrepreneurial related knowledge and skills from the programs and courses that they have registered in the university. Besides, the entrepreneurship activities that they have participated in the university have also given some necessary knowledge and skills to them and changed their attitude to favour entrepreneurship.

In terms of hypotheses testing, two hypotheses were supported, they were: H1 Outcomes of entrepreneurial training programs (TP) positively affect students' entrepreneurial competency (EC) and; H3: Outcomes of entrepreneurial co-curriculum activities (CA) positively affect students' entrepreneurial competency (EC). The findings supported previous studies conducted by Iglesias-Sánchez *et al.* (2016), Gibcus *et al.* (2012) and Amir *et al.* (2013). Indeed, training programs especially short-term programs which could last from a few hours to a few days help to supplement the formal conventional entrepreneurship courses. These programs are normally outcomes orientated with clear aim and focus. Thus, students could opt for the programs that they require and interested in. Furthermore, these programs could also be custom designed to cater for students from different fields of studies.

Entrepreneurs need to deal with real-world problems, such as economic instability and market change. As such, learning of entrepreneurship related knowledge, skills and abilities requires much hands-on practices. Entrepreneurship related co-curriculum activities such as entrepreneurship carnival and entrepreneurship day are some great avenues for students to learn actual entrepreneurial skills and obtain real entrepreneurial experiences. These hands-on activities not only provide opportunities for students to transform their ideas into actions but also for them to brush-up their entrepreneurial knowledge to deal with complex business problems in the future.

Meanwhile, the results also showed that H2: Outcomes of entrepreneurial curriculum courses (CC) positively affect students' entrepreneurial competency (EC) was not supported. This finding was similar to Rahim and Bakar, (2014) and Lekoko *et al.*, (2012). Specifically, Lekoko *et al.* (2012) pointed out that formal entrepreneurial courses might not be appropriately developed to suit the students' needs and covered all areas of entrepreneurship. Indeed, since universities are offering various programs ranging from science and technology streams to social science and art streams, having a full-fledge entrepreneurship course that could develop entrepreneurial competency among students of all areas of studies is indeed a great challenge. In addition, perhaps the students were also more comfortable with hands-on skills or real-world experience because they might perceive that entrepreneurship was real-world actions and not easy to be learned through theories and concept.

Conclusion

The aims of this research were to determine the level of students' entrepreneurial competency and identify the influence of entrepreneurial education on students' entrepreneurial competency. It found that students' entrepreneurial competency level was moderately high, which indicated that majority of the students had good entrepreneurial competency level. Thus, it could be concluded that students possessed good knowledge, skills and ability in entrepreneurship. As for the influence of entrepreneurial education on entrepreneurial competency, entrepreneurial training programs and co-curriculum activities were two important factors that influenced students' entrepreneurial competency. Thus, it can be further concluded that these are the two important avenues to develop entrepreneurial competency at the university level.

This study contributed to both theoretical and practical aspects. Theoretically, it enriched the literature by identifying two important factors that influence entrepreneurial competency. Practically, it provided suggestions to be practiced by universities in developing students' entrepreneurial competency. For instance, the role of universities in developing competitive young entrepreneurs should not be neglected. Universities should encourage students to get involve with entrepreneurship through formal and informal education. This is essential for the students to have a deep understanding on entrepreneurship theories and concepts. Furthermore, entrepreneurial education should emphasize on hands-on practices and "learning-by-doing". Perhaps, students should be given opportunities to run their own businesses in the campus. By doing so, it could help to develop students' technical and soft skills which are necessary for their future undertakings. Universities could also promote collaboration between students and the local community. Besides providing education, universities may also introduce incentives to the students for becoming entrepreneurs.

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