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An Entrepreneurship Innovative Curricular Module for Non-Business Students

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Abstract

With growing popularity of start-ups and entrepreneurial businesses in various sectors and the government's support towards graduate entrepreneurship, entrepreneurship education for non-business disciplines has been expanding in higher education institutes. To infuse entrepreneurial skills among non-business students, entrepreneurship education should be more specific and discipline-based. The relevant medium in the teaching and learning process is a module, which is a resource that contains materials, methods, limitations, and evaluation systematically arranged to best capture the student's interest. In this paper, we will describe an innovative curricular model that was tested in developing an entrepreneurship module for students of social sciences. The module was designed, developed and conducted for social science students in transforming learning of entrepreneurship, increasing the students' entrepreneurial intentions and investigate the effect of the designed course on the students' attitude towards entrepreneurial behavior. This module supports the existing teaching materials by providing opportunities for students to learn independently the concepts described within the module, improve competencies and foster entrepreneurial spirit. This paper discusses a summary of the design process, delivery method, and teaching and learning activities that were implemented.

Keywords: entrepreneurship education, innovative curricular module, entrepreneurial intentions, entrepreneurial behavior, entrepreneurial attitude

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Introduction

In addition to the socio-cultural and economic shifts, the recent financial crises caused by the COVID-19 pandemic have prompted governments around the world to respond with new policies and initiatives. Entrepreneurship is one of the main drivers of jobs, innovation and economic development that policymakers have invested in as a significant solution to social and economic problems (Thornton, Ribeiro-Soriano & Urbano, 2011). The higher education landscape is also changing, with the rising costs of university degrees, significant continuous shifts in consumer

behavior, and technological progress in education and other sectors have driven higher education institutions to evaluate how they can support their stakeholders and respond to changes in the global economy (Klofsten, Jones-Evans & Pereira, 2020). In addition, the COVID-19 pandemic has already begun to influence the education sector as well. An essential way for higher education institutions to contribute to economic development is through the creation of employable entrepreneurial graduates (Audretsch, Hayter & Link, 2015).

The Malaysia government implemented a compulsory entrepreneurship courses in all public and private university undergraduate curriculum since 2008 (Ahmad, Ismail & Buchanan, 2014). The first strategy was to create knowledge and awareness on entrepreneurship, second to foster an entrepreneurial mindset that eventually leads to the third - business startups using the university as platform to train students (Din, Anuar & Usman, 2016). To kickstart the second and third strategy, the government introduced the Entrepreneurship Development Policy in 2010 with the hope of producing graduates with an entrepreneurial mindset (Din, Anuar & Usman, 2016). Various funds and initiatives, such as the Malaysian Global Innovation and Creative Center (MaGIC), Yayasan Inovasi Malaysia (YIM) and The Entrepreneurs Act Together (GREAT) were set up to assist in the growth of these young graduate entrepreneurs (Ridzwan, Muhammad & Rahman, 2017). As a result, this study aims to design an effective entrepreneurship innovative curricular module for non-business students.

Literature Review

Entrepreneurship Education (EE)

Xavier, Kelley, Kew, Herrington & Vorderwulbecke (2012, p.35) defined entrepreneurship education as “*the extent to which training in creating/managing new, small or growing business entities is incorporated within the education and training system at all levels*”. The fundamental idea behind every EE programme is the notion that entrepreneurship can be taught/learned (Maresch, Harms, Kailer & Wimmer-Wurm, 2016), in developing student’s entrepreneurial intentionality (Pittaway & Cope, 2007) and ultimately facilitate a business start-up (Nabi, Holden & Walmsley, 2010; Kucel, Róbert, Buil, & Masferrer, 2016; Schmitz, Urbano, Dandolini, deSouza & Guerrero, 2017). This had been proven in a meta-analysis on entrepreneurial education research that concluded that there is a correlation between teaching entrepreneurship and increased entrepreneurship intention and self-efficacy of participants (Bae, Qian, Miao & Fiet, 2014). The development of entrepreneurial intention is particularly important because it can lead to later persistence in the intention to start up a business (Nabi, Walmsley, Linan, Akhtar & Neame, 2018).

In Malaysia, the EE is considered one of the key means of achieving a high-income economy (Yusoff & Marsim, 2018). EE is among the strategies that the government is introducing to minimize unemployment, creating more entrepreneurs as well as improve employability skills (Shamsudin, Al Mamun, Binti Che Nawi, Md Nasir & Zakaria, 2016).

However, the broader literature on entrepreneurial education offers insights into different types of entrepreneurial learning, suggesting a fundamental distinction between theoretical and practical based learning. Various empirical studies have shown the positive effect of EE on participants. Does entrepreneurial education increase entrepreneurial intention and indeed not all studies suggest it does as the evidence in this respect is equivocal (Nabi, Walmsley, Linan, Akhtar &

Neame, 2018). A number of authors have pointed out that research on how to evaluate the performance of entrepreneurship education/initiatives is lacking, particularly in terms of design, implementation and evaluation (Gedeon, 2017). Yet when it comes to the area of what should be taught and how to teach them is what researchers can't seem to agree on as best practices differ based on the student's ability and culture. Ahmad and Buchanan (2015) reviewed the EE programmes in Malaysia and found that the EE is more theoretical, teacher-centric and examination-oriented and in most cases, the practical aspects of entrepreneurship are not given sufficient attention. Apart from this study, studies by Ahmad, Ismail & Buchanan (2014) and Ismail, Abdullah, & Othman, (2010) also point to EE's ineffectiveness in Malaysia's higher education institutions.

This research explores the transition in the student induced by the teaching and learning activity, which refers to the added value where improvements in the performance of students are assessed in order to determine its effectiveness (Low & McMillan, 1988), thus inducing a positive impact on the student's entrepreneurial intention (Gedeon, 2017). There is also a limited research that explores the relationship between the different types of entrepreneurial learning and entrepreneurial intentions (Nabi, Walmsley, Linan, Akhtar & Neame, 2018).

Entrepreneurship Education (EE) for Non-Business Students

For several years, EE programmes and courses have been offered by and in business schools. However, as the goals and priorities of the EE have changed gradually, entrepreneurship is no longer seen as an exclusive field of business majors and the number of EE programmes offered to non-business students is growing. (Roberts, Hoy, Katz & Neck, 2014). Entrepreneurship scholars (Jones & Jones, 2014) stress the value of EE for non-business graduates by emphasising the fact that many non-business students may have creative and entrepreneurial ideas, but lack entrepreneurial skills to turn their ideas into business ventures. According to Åstebro, Bazzazian & Braguinsky (2012) non-business students, especially in science and engineering, are potentially capable of turning creative ideas into successful ventures if they improve their entrepreneurial skills.

With the increasing popularity of start-ups and entrepreneurial enterprises in different sectors and government funding for graduate entrepreneurship, many universities are now providing EE for their non-business students, both at undergraduate and postgraduate levels (Klofsten, Jonas-Evans & Pereira, 2020). However, in view of the fact that most non-business students would have no business experience while attending EE courses in their faculties, it is important to design these EE courses based on discipline (Jungnickel, Kelley, Hammer, Haines & Marlowe, 2009) and many EE scholars have highlighted the importance of contextualizing EE in non-business degrees (Ozdemir, Dabic & Daim, 2019). The teaching of entrepreneurship to non-business students requires three general stages: (a) the identification of opportunities and the creation of ideas in their specific discipline; (b) the development of ideas and exploitation of opportunities; and (c) market growth. As far as teaching methods and delivery of EE for non-business students are concerned, while different approaches have been used, there isn't a 'most successful' way for scholars and academics to agree on, however the most widely applied approaches are case studies, student entrepreneurial projects, role-play, games, business plan competitions, guest lectures, internships, collaborative creative problem solving sessions, and providing resources to start a business (Jacobson et al., 2020; Ozdemir, Dabic & Daim, 2019). There is a considerable variation

in course design, content and assessment, have ignited debates among various stakeholders, mainly in relation to course appropriateness and cost effectiveness.

The challenge for educators to craft a course that meets the academic requirement while keeping a reality based entrepreneurial climate in the learning experience environment (Solomon, 2007) There is also a need to get various intangible (i.e. attitude, motivation, self-efficacy, self-confidence) via a learning environment that acts as a gateway in supporting a positive environment for the students. As one of the main challenges of EE is the appropriateness of the courses and teaching programs, leading to unique pedagogies capable of stimulating and imparting knowledge simultaneously (Lekoko, Rankhumise & Ras, 2012).

Entrepreneurial Attitude (EA)

Nabi, Linan, Fayolle, Krueger & Walmsley (2017) suggest that the desired outcomes of EE are attitude changes, knowledge and skills changes, feasibility, entrepreneurial intention, socio-economic impact, business startup rates and business performance. In entrepreneurship context, an attitude has been defined as the extent to which one perceives entrepreneurial behavior and its consequences as valuable, beneficial and favorable (Ajzen, 2002).

Rychlak (1981) stated that EA was not only influenced by demographic characteristics but by specific reaction to a situation. The attitude of individual to get involved in the field of entrepreneurship is driven by a number of push and pull factors. Of these pull factors is the psychological encouragement that influences an individual into entrepreneurship, as stated by Crant (1996) the consideration of owning a business. One of the factors is the business idea factor (Naffziger, Hornby & Kuratko, 1994), this was supported by Hatten & Ruhland (1995) that actually going through a relevant EE programme does influence an individual into becoming an entrepreneur. Hatten & Ruhland (1995) research found that the student's inclination to become entrepreneurs was higher after completing the entrepreneurial programme. Therefore, the entrepreneurial attitude is an essential character in influencing an individual mindset and behavior to be able to show their entrepreneurial intention.

Entrepreneurial Intentions (EI)

Du and Wang (2015) found that EE does help to raise the EA and entrepreneurial intention, whereas entrepreneurial aspiration and a sense of innovation contribute most to strengthening entrepreneurial intention. Predicting entrepreneurial activities of EE programme participants is difficult and time-consuming; thus, as indicated by behavioural psychologists (Ajzen, 1991; Schlaegel & Koenig, 2014), EE researchers have generally used the participant's intention for entrepreneurship. EI can be simply defined as an individual's desire to own or even start a business (Krueger, Reilly & Casrud, 2000). The association between EI and entrepreneurial behaviour has been investigated and confirmed by numerous scholars (Bae, Qian, Miao & Fiet, 2014). As Krueger, Reilly & Casrud (2000) explain, it is crucial to understand EI and its the various drivers; understanding the reasons that make people prefer self-employment rather than working for others and having a fixed and secure income, or different factors that will trigger the discovery of an entrepreneurial idea and encourage the individuals to pursuit will help EE instructors to improve the quality of entrepreneurship module.

Literature shows the extensive efforts of entrepreneurship scholars to investigate the factors that would create or increase EI among people. Liñán & Fayolle (2015) conducted a bibliometric review of these studies and classified key factors affecting the individual EI to (a) personal variables (such as gender), (b) EE, and (c) contextual and institutional variables (such as geographic context, social networks, etc.). One of the strongest and most cited EI models that incorporates personal-level variables into the EE context, as a strong antecedent of EI (Maresch, Harms, Kailer & Wimmer-Wurm, 2016), is the Theory of Planned Behavior (TPB), introduced by Ajzen (1991). The TPB has been extensively employed in the design process of EE courses, as well as measuring the effectiveness of EE programs.

Theoretical Framework

The Theory of Planned Behavior (TPB) was used to investigate the relationship between entrepreneurship education and entrepreneurial intentions. It is postulated that entrepreneurial intentions are influenced by 3 major factors: Attitude Towards Behavior (ATB), Subjective Norms (SN), and Perceived Behavior Control (Ajzen, 1991; Kautonen, Van Gelderen, & Tornikoski, 2013). ATB is the level of interest in becoming an entrepreneur, while SN refers to the acceptance of people in their closer surroundings or the effect of society on the individual and PBC refers to the potential to develop entrepreneurial behaviour (Ajzen, 1991; Kautonen, van Gelderen & Tornikoski, 2013). There is a vast body of literature arguing that EI plays a very pertinent role in the decision to start a new business (Linan & Chen, 2009). Krueger, Reilly & Carsrud (2000) found that this model offers a great opportunity to increase the understanding and predictive potential of entrepreneurship.

Research Objectives

The value of this research is to contribute to an area that lacks devoted attention –course content and method of teaching entrepreneurship in order to extract the best EE programme practices. The module was designed, developed and conducted for social science students in transforming learning of entrepreneurship in increasing the students' attitude towards entrepreneurial behavior and entrepreneurial intentions.

- 1) To design an innovative curricular module for social science students,
- 2) To examine the effect of designed curricular module on entrepreneurial intentions.
- 3) To examine the extent to which designed curricular module is related to a positive entrepreneurial attitude.

Methods/Study Design

Participants

The participants were second year undergraduate students from the Faculty of Arts and Social Sciences and Faculty of Language and Linguistics. Most studies tend to examine the impact of EE on entrepreneurial intentions focus on the latter stages of a university student's journey (Linan, Urbano & Guerrero, 2011). All participants were enrolled full time in the Basic Entrepreneurship courses for non-business studies. A total of 181 students, 144 females and 37 males, aged 20 to 25 years, participated in the study. The study design was approved by the University Ethics Committee (UM.TNC2/UMREC – 795).

Entrepreneurial Learning

While attempts have been made to make EE successful, they are not focused on a particular discipline of the undergraduate. The design of the course was motivated by an appreciation of lack of entrepreneurship modules designed exclusively for non business students. Though, there has been a recent review of the curriculum by the ministry of education in Malaysia in terms of integrating digital marketing into the curriculum in the year 2019, yet, both practitioners and lecturers argue that further improvement was necessary in order to prepare social science students for taking entrepreneurial journey during and after their studies. This argument is partly motivated by the common impression that the pedagogy of the course should be further developed in order to address the interests of non business students.

In this study, we used an Educational Design-based approach to design an innovative entrepreneurship module for students of social sciences aimed at transforming the learning of entrepreneurship and examine the effect of the designed module on the students' EI and attitude towards entrepreneurship. This study determines the EI of the students pursuing the entrepreneurial program based on a set of pedagogy implemented in class in teaching entrepreneurship. The designed program covers the two important aspects of entrepreneurship that the non-business students lack i.e. a perceived lack of relevant experience and self-confidence, which can instill the confidence or change in the attitude on entrepreneurship or the least spark an interest in entrepreneurs (Lekoko, Rankhumise & Ras, 2012). The idea is that this structured program will assist the students to develop entrepreneurial capabilities and mindsets. The learning experience needs to build depth and breadth in awareness and understanding of entrepreneurship education. This structured programme also provides the students with the exposure and positive experience during their early years of the university life, which can later provide the platform to build a career on entrepreneurship upon graduation.

Very little research has been conducted in universities on entrepreneurship education in universities in shaping attitudes, supplying knowledge and generally enabling students as to pursue entrepreneurship as a career option. (Lekoko, Rankhumise & Ras, 2012). The approach used in the development of the innovative curricular model follows the sequence developed by Branch (2009) in the ADDIE model, which is Analysis, Design, Development, Implementation, and Evaluation (ADDIE).

Needs Analysis

Need analysis is performed to determine the gap between existing and desired skills, experience and capabilities. This stage is being carried out as a basis for the development of an entrepreneurship course structure, to assist in structuring self-learning among students. The practicality testing was conducted, through need analysis administered via interview and open-ended questionnaire to twenty alumni, entrepreneurs and academic experts in order to get a constructive input. Most of them felt that there was still a need to further improve innovative thinking, persuasion, negotiating and pitching skills among students. In addition, there is also a clear need to consider the different e-commerce platforms / online marketing in the new age of globalization. On the requirement for startups was mainly the right mindset and a clear understanding of the market / market strategy. Besides, skills required to execute a good business plan were the knowledge of competition, resources and networking / linkages. The most effective

method in teaching entrepreneurship was student centered entrepreneurship courses, followed by workshops on entrepreneurial mindset and executing mini projects.

Design and Development of the Content

According to Sirelkhatim & Gangi (2015) who did meta-analysis on entrepreneurial education found that there are 3 generic themes a) “about” entrepreneurship b) “for” entrepreneurship and c) “through” entrepreneurship. The main focus is on “for” entrepreneurship which aims to encourage students and enhance their intentions to be entrepreneurs in future (Sirelkhatim & Gangi, 2015). The content and pedagogy had a combination “for” and “through” entrepreneurship using skill based approaches in training the students on the mechanism of running a business and being an entrepreneur to have real taste of the market forces (Sirelkhatim & Gangi, 2015). The personalized teaching approach supports current teaching materials by providing students with opportunities to learn independently, strengthening their competencies and promoting entrepreneurial spirit. The current entrepreneurial course at the said institution of study promotes innovative and creative thinking and how to lead / manage a business. Its key educational objective is to equip students with business knowledge that will enable them to develop a business proposal. The most common teaching methods are seminars, case studies, project work, guest lecturers and sometimes external judges who are invited to review and provide input on student ideas.

The competency required includes the knowledge, skills, attitudes and behavior is needed to complete an activity successfully (Sirelkhatim & Gangi, 2015). Among the entrepreneurial competencies, they include opportunity recognition, opportunity assessment, risk management, creative problem solving, value creation and building, and using networks by providing a learner-centered programs that better engages students (Sirelkhatim & Gangi, 2015).

In this research, the existing course structure / module, pedagogy and digital components were twiggged to transform the learning experience of students in order to create a positive entrepreneurial attitude for the student. Effective intervention includes a dedicated classroom where students regularly plan and experiment with their business idea. The goal of the pedagogical re-engineering was to concentrate on "process" and "method" learning, while students were seen as active participants and lecturers as "learning facilitators." In addition, there is a need to better understand the student's ability to associate classroom learning with real-world experience. This together with a well-designed assessment can assist in clear expectations via a practical workload and provide student with opportunity to self-monitor, rehearse, practice and revise what is being taught will be able to capture, use and develop the innate abilities of the students.

Implementation

The content of this module is not only aimed at providing a portfolio of techniques to encourage entrepreneurship practice” from generating ideas, team building, business planning, creativity, innovation, inspiration, opportunity recognition, selling, networking, unpredictability, adapting to change, expecting and embracing failure (Sirelkhatim & Gangi, 2015) but to include content skills as identified by Hisrich and Peters (1988 in Lekoko, Rankhumise & Ras, 2012). These skills are i) technical skills which relates to oral communication, technical management as well organizing skills, ii) personal entrepreneurial skills which includes attributes such as risk taking and

innovation and iii) business management skills –related to generic management functions such as decision making, marketing and financial skills.

This study focuses on the development of better advanced and customized content, teaching skills and methods for the consistency and effectiveness of entrepreneurship education programs for social science students. A pedagogy with design-led experiential through interactive learning and reflexive analysis will encourage students to develop a positive attitude towards entrepreneurial behavior.

Phase 1 - At the beginning of the semester the students were required to complete a pre survey on Entrepreneurship Intentions Questionnaire (EIQ) used by Liñán, Urbano, and Guerrero (2011) with an additional of one extra question (Appendix A) that measures the four central constructs of the TPB i.e., EI, ATB, SN and PCB using a 7-point Likert scale (from strongly disagree to strongly agree).

Phase 2 - The students were tested on their basic knowledge of entrepreneurship as most of the students had no personal entrepreneurial experience. Lectures were conducted on various topics ranging from identify and assess opportunities, content marketing, communicating, and networking, managing money, facing failure and making money from social media. The students were provided with a conceptual context, helping them to engage and be familiar with the real business world (Lekoko, Rankhumise & Ras, 2012). At the end of the lecture students were given a multiple-choice quiz to assess their understanding and knowledge.

Phase 3 - Working on a project in groups offers a platform for experiential learning, allowing for a more student-centered emphasis in the classroom that produces an engaging learning experience (Patel & Metha, 2017). A cooperative learning experience can improve student achievement by encouraging students to share knowledge and encourage each other. It may increase the motivation of students, as students may feel responsible (Ormrod, 2011). The students were then divided in groups of 6 to 8, members of the groups were randomly chosen.

The learning activities were identified based on the need analysis input i.e. ideation in team, developing business model canvas, seminar series, marketing portfolio, quiz on the e-Commerce platform, critical assessment of a case study and finally the elevator pitch (see Table 1). In addition, students were also asked to do a reflection on what they learned from each of the learning activity carried out. The given activity and exercises helped the students specifically to come up with a product or service concept that can encourage entrepreneurial intent and actions.

The first learning activity was ideation in a team. Students were required to generate a maximum of 3 new business ideas that will be able to solve a dilemma faced by university students and willingness to pay for the product / service. Students worked in teams to generate business ideas based on shared expertise and brainstorming sessions among the group members. Successful / prolific entrepreneurs were invited to analyze the student's initial ideas and offer input on the feasibility of their business ideas. Listening to the other team's pitch, encouraged the students to recognize the strengths and weaknesses of their counterparts, thus introduced strategies to accelerate the success of their own project (Milosevic, 2018). The technical skills learnt here is the oral communication and presentation. This in a way had helped the students to further develop and gain the much-needed momentum to proceed further, which was reflected on what they learned

from each of this learning activity. As an outcome of the learning process, students were required to be able to develop a comprehensive business model in accordance with the market requirement.

Table 1. Learning Activities Conducted in Class

Learning Activity	Detail	Feedback - individual/group
Presentation of 3 business ideas (similar to a business pitch)	i) Comments was given by the invited entrepreneur and lecturer ii) Polling by the classmates on the best idea based on the marketability and profitability	A minute paper on what was learnt from the exercise
The chosen idea was translated into the Business Canvas Model (BMC)	Based on the feedback given- thoughts were given on product costs, selling price and willing us to buy	
Seminar series	Local successful entrepreneurs were invited to talk about their experiences and challenges on being an entrepreneur.	A one-page reflection on what was learnt and how it can be applied in their business idea
Marketing portfolio	Building a marketing portfolio of the product/service- teaser post, soft and hard selling, pricing and costing of the product.	
Quiz based on the go-e-commerce platform	The go-e-commerce platform is an online entrepreneurial platform with the tools to help build and take the business to the next level.	Reflection and feedback if the platform useful in terms of gaining knowledge and starting a business
Case study	The case was on a struggling entrepreneur who finally succeeded in his business. 5 critical thinking questions were to be answered	Reflection on what they have learnt from the case study
Elevator pitch	Entrepreneurs were invited to give feedback and comments	Reflection and feedback on what they have learnt from the elevator pitch

The second learning activity was the Business Canvas Model (BMC). Next was developing the Business Model Canvas (BMC), the students learn how to communicate and connect the nine key elements of a business model: Customer Segments, Value Proposition, Customer Relationships, Channels, Key Resources, Key Activities, Strategic Partners, Revenue Streams, and Cost Structure. The students learned on how to implement these concepts into their product/service to enable them to see the viability of their idea. Based on the feedback given by the entrepreneurs-thoughts were given on product costs, selling price and willing us to buy, the chosen idea was translated into the BCM. Here the importance of the value proposition was emphasized in terms of understanding the customer's pain and gains. The crucial emphasis was placed on the unique selling propositions, whereby each group is required to submit a minimum of 2 unique selling propositions for the product or service. The personal entrepreneurial skills developed is observation skills, self-assessment skills and validation of ideas. Reflection on what they have learnt from the case study.

The third learning activity was the seminar series. Local successful entrepreneurs were invited based on relevant industry that the students were keen on doing a startup, to talk about their experiences, challenges, common mistakes that start-ups make, directed to create a unique value proposition for a product or service and selecting the right target market. These entrepreneur's offer the real scenario of the business world, the students were introduced to successful entrepreneurs, who shared their impressions of becoming a nascent businessman, the hell and heaven of start-ups, investor or grant pitching tips, and the power of networking. Here the students had the opportunity to bounce off their ideas with the entrepreneur by seeking the possibility of adapting their ideas. Exposing the students to the notion as why some entrepreneurs succeed and other fail.

The fourth learning activity was building a marketing portfolio of the product/service. Here students were introduced to the best way to present their proposals to the targeted market. Students were then expected to design the marketing portfolio for the chosen product/services via teaser

poster, soft selling and hard selling. To do that, students were provided with 4 hours of lecture on how to use different online platforms, i.e., Facebook page, Business WhatsApp's, Business Instagram to promote their business product/service online.

The fifth learning activity is the online learning platform –go-ecommerce. The students were introduced and given access to Go-ecommerce, an online custom based platform for students that can help accelerate start-up growth. Students have been introduced to the importance of online channels in the internet age in order to create value for the consumer and increase wealth. Data shows that e-commerce players are seeing a big increase in revenue during the lock-down era. Data shows ecommerce players see tremendous increase in sales during the lockdown period (Nielsen, 2020). Digital start-ups like google, Amazon, Alibaba, Dropbox, Uber, AirBNB are now counted as giant companies. The awareness on how the e-commerce platforms helps in leveraging existing consumers and attract new ones, build social groups, and ensure compatibility.

The sixth learning activity was a relevant case study aimed at adding value by discussing critically the real issues faced by the entrepreneurs. Case study is admittedly a powerful tool that allows the centre of learning to be with the students. The case study helped the students to generate ideas and a way to illustrate the theories related to entrepreneurship education. Discussion on the case study allowed the students to get a different view from the peers as well. In addition, the case studies chosen were very targeted and niche-specific to the business idea. The discussion of the case study is another way to acquire knowledge and motivation which lead to a higher intention to be an entrepreneur in future. The case was on a struggling entrepreneur who finally succeeded in his ventures, students were given 5 critical thinking questions to be answered. Via this activity the students learnt business management skills relating to decision making, financial management and marketing. Reflection on what they have learnt from the case study showed that the students had developed an ability to synthesize information.

The final learning activity was the elevator pitch. The designed course ends with an elevator pitch of their business idea. The students were required to perform an elevator pitch on the idea that they had worked on. At this session, the students learn how to hook and engage the audience with their pitch. Presentation skills and business power point template was given as a guideline for them to prepare the content. Several rounds of rehearsal were conducted among the peers to allow them identify and correct mistakes among themselves, before pitching to their lecturer and entrepreneur. Venture capitalist and angel investors were invited to give feedback, comments and a possibility of sponsoring the student's idea. The conversion of the new idea into a viable and profitable venture. Reflection and feedback on what they have learnt from the elevator pitch showed that the students had learnt persuasion skills, professional aptitude and confidences.

Phase 4 –At the end of the course, a debriefing session was done. The students were also required to answer the same questionnaire as the pre-test to assess the effect of the EE on the student's and entrepreneurial attitude and intention.

Evaluation

Statistical Package for Social Sciences (SPSS) version 25 was used to analyze the data. The sample was normally distributed and excluded outliers, allowing parametric tests of significances. The reliability and validity of the EIQ, was first pretested with a sample of 230 students (186 females

and 44 males) before being used amongst the actual participants of 181. The reliability of each construct using Cronbach's Alpha coefficient, showed an overall high level of consistency of .932 (see Table 2).

Table 2. Reliability Statistics

Construct	Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
EIQ	.932	.932	21
EI	.851	.852	6
ATB	.870	.873	5
SN	.869	.870	4
PBC	.761	.764	6

As for the factor analysis, the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy was notably high .925 and the Bartlett's Test is significant ($< .05$) which suggests that data is suitable for factor analysis. The EIQ were loaded onto four separate factors each with eigenvalues greater than 1.0. Additionally, each item loaded strongly on its respective factor and no cross-loading was above the 0.40 level, thus providing evidence that the measures are distinct (Cohen, 1983).

The paired-sample t-test was used for determining a significant statistical difference between the pre and post entrepreneurial intention of the 181 students. Table 3 summarizes the results of this test. A two-tailed paired sample t test with an alpha level of 0.5 was used to compare the pre intention of students ($M=4.45$, $SD = .88$) and post intention of students ($M= 4.82$, $SD = .99$). The differences was statistically significant, $t(180) = 6.78$, $p < 0.001$. Cohen's d for this test was 0.38, which can be described as small to medium. In addition, each individual construct were examined to see its effect on entrepreneurial intention. The effect of ATB, SN and PBC on intention were all strongly and positive correlated, significant at $p < 0.001$.

Table 3. Results of Paired T-Test for the Program Impacts (n = 181)

Scale	Pre intention		Post intention		Correlation	Sig
	Mean	SD	Mean	SD		
EIQ	93.62	18.577	101.23	20.926		.001
EI	4.28	1.125	4.52	1.262	.742	.001
ATB	4.89	1.091	5.09	1.167	.681	.001
SN	4.86	1.014	5.31	1.083	.545	.001
PBC	4.30	.818	4.56	.965	.769	.001

The overall results of the pretest and posttest analysis for each of the factor indicated that the entrepreneurial education via the designed course had a positive impact on the students' entrepreneurial intention. The findings also show that the pre-and post-survey showed a marked change in the student's entrepreneurial awareness, which is supported by the fact that the learning experience has increased the student's entrepreneurial intention. Past research has shown that there are numerous benefits for students when they participate in design focus learning experiences this includes and not limited to creative thinking, problem solving, brainstorming, experimentation & piloting (Douglas, Fitzsimmons & Bendell (2011); Seidel & Fixson, 2013; Razzouk & Shute, 2012). The given activity had a positive impact that drove the individual's assessment of his/her ability to carry out an entrepreneurial activity in a successful way. The learning activities guided the student, one step to the next, through continued practicing and association of materials to greater learning and depth of comprehension (Bosman, 2019). In addition, the environment around the student's especially parents, lecturers, peers and university were supportive and encouraged entrepreneurial actions. The potential or the willingness that drives the student ability to carry out an entrepreneurial task can be molded if the right attitude and support is given to them.

The analysis of the reflection and learning of seminar series (group assignment) revealed that the words “change”, “learn”, “actively”, “knowledge”, “move”, “organization”, “inspirational” and “ideas” were the student's optimistic thoughts about the exercise spurred their intention towards entrepreneurship (see Figure 3).

Figure 3. Most Used Words on Reflection and Learning of the Seminar Series



Finally, on the case study the most used words were “change”, “person”, “content”, “organize”, “learn”, “moving”, “knowledge” and “always” the student's positive thoughts about the exercise motivated their plan to do business (see Figure 4).

Figure 4. Most Used Words on Reflection and Learning of the Case Study



In general, students were able to understand that the learning experiences were extremely important in their preparation of business concepts, providing them with the opportunity to think from multiple angles, especially from a customer viewpoint and the ability to develop a more comprehensive solution.

Discussion

According to Alberti, Sciascia & Poli (2004) and Niyonkuru (2005) for an effective entrepreneurship education there should be a partnership between the learning outcomes of the entrepreneurship course, the students to whom the programme is delivered, the content of the entrepreneurship module, the method of delivery and the evaluation used should be developed for successful entrepreneurship education. There is a need to better understand the student's ability to

associate classroom learning with real-world experience. Entrepreneurship education programs has a large measurable impact on student's entrepreneurial intentions (Fayolle, Gailly & Lassas-Clerc, 2006). This study reconfirms that entrepreneurial education does have a positive impact on the perception of the student's entrepreneurial attitude. Thus contributing to the literature that it is possible to cultivate a change in the mindset through education, in developing the necessary skillset of being able to create a viable business idea. Another reason will be the acquired knowledge on developing an entrepreneurial mindset is helpful in their chosen career, the ability to think out of the box with new initiatives.

In a study by Maresche, Harms, Kailer & Wimmer-Wurm (2016) and Amjad, Rani & Sa'atar (2020), it was discussed that entrepreneurship education generally has a positive effect on the entrepreneurial intentions of students from different disciplines (business, science and engineering) but has a greater impact on certain target groups (business students). Their results show the need for educational methods in entrepreneurship education needs to be adapted to the unique needs of various groups of students, similar to the research by Hasanah, Malik & Dirawan Darma (2016) and Yami, M'Chirgui, Spano & Barykina (2020). The use of TPB and its construct i.e. attitude towards the behavior, subjective norms and perceived behavioral control, behavioral intentions has captured the change intention by the non-business students. The result of the pre and post of this study shows that the entrepreneurial intention of the students increased following the use of the design-led course. These show that the importance of EE in developing EI of students together with the right designed entrepreneurship course will meet the learning requirements for non-business students. Here the university played the key role as an entrepreneurial hub, connecting the students to entrepreneurs, business enterprise and other relevant stakeholders (Lekoko, Rankhumise & Ras, 2012). The result indicated that the deigned course was useful to facilitate students in understanding the learning material. This is shown by the outcomes of the assessment and reflection session, where the use of accompanying terms has shown that students were willing to move forward with a realistic form of teaching and learning. The result indicates that students have been able to identify the procedures, strategies and acts of entrepreneurship that suggest a clear desire to become entrepreneurs, and this has shown by TPB's ability to predict entrepreneurial intention (Munir, Jianfeng & Ramzan, 2019)

The overall architecture of the entrepreneurship course had helped the students embrace entrepreneurship and had received positive incentives, leading to a significant positive impact on entrepreneurship intention and action, leading the students to produce a business idea. Thus, it can be concluded that learning by using this designed module can be effective in improving student learning outcomes (Yulastri & Hidayat, 2017) Entrepreneurship training courses held in the form of theoretical and practical courses can be used as a form future capital of students after graduation.

The entrepreneurial program needs to be more structured when imparting knowledge to the students as this determines the effectiveness. The rationale for developing and refining the curriculum is based on the empirical evidence that it has concentrated on preparing students for the make a job option.

Conclusion and Recommendation

Entrepreneurship education through a designed entrepreneurship course is proven to be effective in order to increase the students' entrepreneurial intention and behaviour. It is necessary to

remember that a dynamic and heterogeneous approach to teaching is crucial to improve entrepreneurial intention and behaviour. The learning activity had stimulated /utilized the concepts, skills and mental awareness of the students during the learning process of starting and developing their business ideas (Lekoko, Rankhumise & Ras, 2012). The growing need for non-business students to develop entrepreneurial skills, whilst at school, initiates the university to understand the nature of the teaching experience, approach and its effect on entrepreneurial intent and behaviour. This has very broad implications for universities, entrepreneurship educators and undergraduate students in Malaysia. Regardless of the typical institutional approach to entrepreneurship teaching in various universities in Malaysia, teaching methods based on designed entrepreneurship courses should be adopted as an institutional culture. Therefore, the designed entrepreneurship course used in this study can be widely used and tested to facilitate critical or advanced analysis. However, the study confirms that the students need to be driven by their actions in order to become more entrepreneurial.

Below are some recommendation and suggestion to further improve the designed course: 1) any potential business ideas should be sent to incubation programme; 2) visits by active entrepreneurs can also provide students with a high degree of inspiration, since the ecosystem and climate are essential in increasing the intention; 3) Mentors can be allocated throughout the course as coaching and mentoring has been seen to be effective in growing awareness and keeping students involved. This would also improve the entrepreneurial intent of the student; 4) reinventing science and technology in the EE (Yami, M'Chirgui, Spano & Barykina, 2020) and improving students' technical skills; 5) educators should be properly trained in dealing with case study and methods and 6) conducting competitions at the end of the course as a part of the course. Finding a sponsor for a business competition (MAGIC, TEKUN, TPM) whereby, the winners will be awarded with a micro grant to bring forward the business idea, with a mentor assigned for the project. These are some of the common or best practices that can be used among student's of social sciences

Limitations

The findings may or may not have been compromised by a variety of limitations. The use of the research sample unit may not be completely reflective of the general student population. However, some research has shown that the entrepreneurial aspirations of university students remain quite stable after graduation, as this a stage whereby they need to determine their career path (Liñán, Rodríguez-Cohard & Guzmán, 2011; Fitzsimmons and Douglas, 2011). The geographic reach of this study stems another restriction, in particular, the sample of study comes from an urban i.e. city region. Samples from rural or semi-rural regions may produce differing results. Therefore, to validate or refute these findings in alternative environments, further study is required.

Another drawback is that we have no control group to compare with our study group, so we cannot establish the exact effect of EE on the EI of students. We may conclude that these significant pre-test / post-test results are the outcomes of EE participation because the EE material is unique and not duplicated in other courses, but our results would have been improved by the existence of a control group. Lastly, we used a self-report questionnaire that may be susceptible to social desirability bias, misinterpretation of questions, lack of insight or reference bias. While this may not be true in all situations, this general method can bridge the gap in providing the much-needed exposure, support and motivational experience and provide a platform from which to build depth and capability in preparation for an entrepreneurial career upon graduation (Lekoko, Rankhumise

& Ras, 2012). It has been reported that most of the new employment come from small business enterprises.

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