TEACHING SPORT ENTREPRENEURSHIP IN MALAYSIA: AN EDUCATIONAL DESIGN-BASED RESEARCH

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UNIVERSITY OF MALAYA
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ABSTRACT

An 'entrepreneurial revolution' is taking over the world. Entrepreneurship is an important avenue for economic growth, job creation and social development. In agreeing with the controversial statement that "Entrepreneurship can be taught", universities have dipped their toes into the lake of entrepreneurship, trying to shape their students as entrepreneurs. Although many scholars assert entrepreneurship education (EE) increases entrepreneurial intentions (EIs), statistics show that universities are not successful in this mission. Among academic disciplines, sport is one of those areas that despite enormous opportunities in the industry has produced fewer entrepreneurs than it intended. Numerous researchers have investigated the effects of EE on students' EI, but none have approached this issue from either the pedagogical perspective or the discipline of Sport. In fact, there is an evident gap in the studies that provide a systematic process of designing effective entrepreneurship courses. This study employed an educational design-based approach to develop a sport entrepreneurship course for sport students in Malaysia. The Ajzen's (1991) Theory of Planned Behaviour and Gagné's (1985) nine events of instructions were used as the theoretical foundation and teaching strategy guidelines of the course. The primary qualitative objective of this study was to determine the characteristics of an effective sport entrepreneurship course, and the main quantitative objective was to increase the students' EIs. The completed design was implemented through a pre-test/post-test quasi-experimental intervention with control group (that was not exposed to the course). A total of 52 students participated in this intervention. Chi-square and independent samples *t*-tests showed the experimental and control groups had no significant difference at the baseline. The statistical analysis results indicated that the students' EIs and Attitude toward Behaviour (ATB) increased significantly after the

course. However, students' subjective norms and perceived behavioural control, despite showing a small improvement, did not change significantly after the course. Results showed that ATB was the strongest predictor of EIs. Furthermore, six months after the intervention, a follow-up enquiry was carried out. The findings identified that financial resources, lack of business knowledge and skills, and self-confidence were the most common setbacks toward self-employment, as perceived by study participants, who were fresh graduates when the follow-up enquiry was performed. This study was the first to take the instructional design aspect of an entrepreneurship course into account. Therefore, further studies, especially with experimental and action research approaches, are needed to investigate the influence of other pedagogical factors, such as various learning objectives, instructional designs, teaching methods, and etc.

ABSTRAK

Tren ‘revolusi keusahawanan’ sedang mendominasi dunia. Keusahawanan adaah satu kaedah penting yang menjamin pertumbuhan ekonomi, penciptaaan kerja dan pembangunan sosial. Apabila banyak universiti bersetuju dengan kenyataan kontroversi bahawa “Keusahawanan boleh diajar”, mereka mula meneroka ke dalam domain keusahawanan, dan mereka cuba untuk membentuk pelajar-pelajar mereka sebagai usahawan. Walaupun ramai pengkaji telah menegaskan bahawa pengajian keusahawanan (EE) meningkatkan hasrat pelajar untuk menceburkan diri dalam bidang itu- atau hasrat keusahawanan (EI), statistik telah menunjukkan yang universiti tidak berjaya mencapai misi tersebut. Di antara disiplin akademik, sukan adalah salah satu bidang yang telah menghasilkan hanya segelintir usahawan dari yang sepatutnya, walaupun ia terdedah kepada begitu banyak peluang dalam industri tersebut. Ramai pengkaji telah mengkaji kesan-kesan EE ke atas EI pelajar, tetapi tidak ada sesiapa yang mendekati isu ini dari sudut pedagogi atau disiplin Sukan. Hakikatnya, terdapat jurang dalam kajian yang menyediakan satu proses sistematik merekacipta kursus keusahawanan yang efektif. Kajian ini menggunakan satu pendekatan berasaskan rekacipta pendidikan untuk membangunkan satu kursus keusahawanan sukan untuk para pelajar sukan di Malaysia. Teori Perilaku Terancang oleh Ajzen (1991) dan sembilan arahan Gagné (1985) digunakan sebagai satu asas teoretikal dan panduan strategi pengajaran kursus. Objektif kualitatif utama kajian ini ialah untuk menentukan ciri-ciri kursus keusahawanan sukan yang efektif, dan objektif kuantitatif utamanya ialah untuk meningkatkan lagi EI pelajar. Rekabentuk yang telah lengkap dilaksanakan melalui satu intervensi kuasi-eksperimen pra-ujian/pasca-ujian dengan kumpulan kawalan (yang tidak didedahkan dengan kursus tersebut). Sejumlah 52 pelajar telah melibatkan diri dalam intervensi tersebut. Ujian Chi kuasa dua dan ujian-t sebagai sampel bebas menunjukkan kumpulan eksperimen dan kawalan tidak ada perbezaan yang signifikan pada garis dasar. Keputusan analisis statistik menunjukkan bahawa EI dan Sikap Terhadap Perilaku pelajar (ATB) meningkat dengan signifikan selepas kursus. Namun demikian, norma-norma subjektif pelajar dan persepsi kawalan tingkahlaku walaupun menunjukkan sedikit sahaja penambahbaikan, tidak berubah secara signifikan selepas kursus. Keputusan menunjukkan bahawa ATB adalah peramal terkuat EI. Tambahan lagi, enam bulan selepas intervensi itu, satu kajian susulan telah dijalankan. Dapatan menunjukkan bahawa sumber kewangan, kurangnya pengetahuan

dan kemahiran dalam perniagaan, dan keyakinan diri menjadi faktor-faktor kelemahan paling lazim terhadap pekerjaan-kendiri, seperti yang dilihat oleh peserta kajian, yang mana mereka baru sahaja keluar dari universiti semasa kajian susulan dijalankan. Kajian inilah yang pertama mempertimbangkan untuk menggunakan aspek rekabentuk pengajaran kursus keusahawanan. Oleh itu, kajian selanjutnya, terutamanya yang menggunakan pendekatan kajian eksperimen dan tindakan, diperlukan untuk mempengaruhi faktor-faktor pedagogi lain, seperti pelbagai objektif pembelajaran, rekabentuk pengajaran, metod pengajaran dan sebagainya.

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And lastly but definitely not least, I want to express my most sincere gratitude and undying love to Alaleh; apart from appreciating your incredible editing skills, what I really want to say is that you are not only my wife, but my true companion, my best friend and the most dedicated partner I could ever ask for. Your boundless positive energy, your never-ending support and your encouragement have been with me from the very first day I started this journey. There are some less exciting days in a PhD student's life; those days that do not go so well as others, but you endured my grumpiness during all those times and I am truly unable to thank you enough.

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LIST OF SYMBOLS AND ABBREVIATIONS

d	:	Cohen's *d* (Effect Size)
F	:	*F*-Ratio
M	:	Mean
n	:	Sample Size of a Group
N	:	Total Sample Size
p	:	*p*-Value
r	:	Correlation Coefficient
R^2	:	Coefficient of Determination
t	:	*t*-Value
CI	:	Confidence Interval
df	:	Degrees of Freedom
SD	:	Standard Deviation
SE	:	Standard Error
ß	:	Standardized Regression Coefficient
χ^2	:	Chi Square
AACSB	:	Association to Advance Collegiate Schools of Business
ATB	:	Attitude toward Behaviour
CAP	:	Critical Agenda Project
CCEE	:	Cross Campus Entrepreneurship Education
CEE	:	Consortium for Entrepreneurship Education
DBR	:	Design-based Research
EDBR	:	Educational Design-based Research
EI	:	Entrepreneurial Intention
EE	:	Entrepreneurship Education

EEM	:	Entrepreneurial Event Model
EIQ	:	Entrepreneurial Intention Questionnaire
EEP	:	Entrepreneurship Education Program
GDP	:	Gross Domestic Product
GEM	:	Global Entrepreneurship Monitor
GNI	:	Gross National Income
HEIs	:	Higher Education Institutions
IEI	:	Implementing Entrepreneurial Ideas
MoE	:	Ministry of Education
NGO	:	Non-Governmental Organisation
PBC	:	Perceived Behavioural Control
SME	:	Small and Medium Enterprises
SEE	:	Sport Entrepreneurship Education
SNs	:	Subjective Norms
TPB	:	Theory of Planned Behaviour

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CHAPTER 1: INTRODUCTION

1.1 Introduction

An 'entrepreneurial revolution' is taking over the world. Entrepreneurship is an important avenue for economic growth, job creation and social development. In agreeing with the controversial statement of "Entrepreneurship can be taught", universities have dipped their toes into the lake of entrepreneurship trying to shape their students as entrepreneurs. Although many scholars assert entrepreneurship education (EE) increases the entrepreneurial intentions (EIs), statistics show universities are not successful in this mission. Among academic disciplines, sport is one of those areas that despite enormous opportunities in the industry have produced fewer entrepreneurs than it intended. Taking educational design-based research approach as the method, this study will try to design and implement a sport entrepreneurship course, and investigate its effectiveness through an experimental design setting. This chapter provides a background to the problem, along with research objectives and questions.

1.2 Background of Study

Sport industry is an important puzzle of economy to many countries (Hsiao, Peng, & Huang, 2012; Kang, Kim, & Kang, 2015; Li et al., 2012; Milano & Chellaurai, 2011) and has been exploited as a practical means for development for a long time (Reis, Vieira, & de Sousa-Mast, 2016). According to Pitts and Stotlar (2002) sport industry was worth $152 billion at the beginning of 21st century, which had placed it as the 11th largest industry in the world. The sport industry is growing rapidly at a phenomenal rate (Hums, Barr, & Gullion, 1999; Milano & Chelladurai, 2011; Pitts & Stotlar, 2013); the value of this industry has grown to over $400 billion (Plunkett Research, 2010). Beside the huge financial value and promising job opportunities in this industry, and due to

sports being the means of nationalism and social development, governments have focused their attention to developing their sport industry (Desbordes, 2006; Pedersen & Thibault, 2014; Fullerton, 2006; Hoye, Smith, Nicholson, & Stewart, 2015) and also an entrepreneurial mechanism that promotes global peace through linking people with common interest together (Ratten, 2015).

However, despite the large size of sport industry in South American and European countries, it is relatively new in Malaysia (Khoo, 2005). According to Ahmad Shabery, former minister of the Youth and Sports Ministry of Malaysia (The Borneo Post, 2011), in 2009 the sport industry contributed RM 30.2 billion to Malaysia's Gross National Income (GNI) which was 5% of Gross Domestic Product (GDP) (Trosien, 2013). Although the Malaysian government has encouraged the business sector and entrepreneurs to participate in this industry, only in few segments like sporting goods, increasing activities have been successful (Khoo, 2005). To develop the Malaysian sport industry and to improve its role in the national economy, the government of Malaysia declared 2011 as the "Sports Industry Year". Another setback to the development of the sport industry comes from the way that sport is perceived in the country. Shabery points out that in Malaysia, sports is being regarded as an unimportant subject in schools, wherein the main focus of people is on academic qualification. In order to change this culture, the Malaysian government has taken several initiatives; such as introducing "1 Student 1 Sport" program (Gilmour & Rowe, 2012). However, despite all the efforts made by the government, the sport industry in Malaysia is still young and needs more improvement. Ahmad Shabery (The Borneo Post, 2011) argues that the Malaysia's sport industry is still fragmented and the solution to develop the foundations for a sustainable sport industry is to align all the key players and stakeholders; an important objective that can be achieved through education and

engagement. This highlights the important responsibility of education systems in producing competent graduates capable of contributing to their respective industry and/or service sectors. To take it one step further, education systems capable of producing entrepreneurial graduates would have an even higher impact on the industries and service.

Having gone through the literature, there is comprehensive discussions on the importance of entrepreneurship. As Kuratko, Morris, and Schindehutte (2015) point out, an 'entrepreneurial revolution' is taking over the world, marking the new era of a renewal process as modern economies are being defined by entrepreneurs playing an intrinsic role. Praised as catalysts for employment creation and growth of businesses and economies (Bruton, Khavul, Siegel, & Wright, 2015; Canina, Palacios, & Devece, 2012; Kuratko et al., 2015; Naudé, 2010; Thomas & Mueller, 2000), entrepreneurial entities are now perceived to be the incubators of innovation for products as well as markets. Numerous scholars highlight the critical role of entrepreneurs as one of the leading key players of sustainable economic development (Acs, 2006; Acs, Audretsch, Braunerhjelm, & Carlsson, 2004; Audretsch & Keilbach, 2004; Audretsch & Thurik, 2001; Baumol, 2004; Grossman & Helpman, 1994; Kirzner, 1997; Shane, 2000). Entrepreneurs directly impact national wealth through taxation, and through improving living standards they affect social well-being. On the national scale, entrepreneurship motivated by opportunity has been seen to improve levels of life satisfaction and happiness, albeit with limitations (Naudé, Amoros, & Cristi, 2014). Therefore, there should be no surprise over governments' attempts in promoting entrepreneurship and creating more entrepreneurs.

Malaysia regards entrepreneurship favourably and extensively invests in encouraging and supporting it. Previously known as the largest exporter of rubber and

tin, the Malaysian economy was transformed into a manufacturing-based one in less than two decades (Ramasamy, Chakrabarty, & Cheah, 2004). Following this transformation, policy makers came to the realization that the absence of local entrepreneurs capable of identifying niche markets and product innovation would constrain the economic diversification process (Fong, 1990). With this purpose in mind and with the vision of becoming a high-income nation in 2020 (Ramasamy et al., 2004), Malaysian government allocates considerable budgets to support and motivate entrepreneurship (Ooi & Ahmad, 2012). Entrepreneurship has helped manufacturing and service sectors, and since sport industry has been emerging as an important market with huge following (Kang, Kim, & Kang, 2015) it is expected that entrepreneurs boost this industry as well. This critical role of entrepreneurship in the economic growth of Malaysia can be seen in the Small and Medium Enterprises (SME)'s contribution in the country's GDP, which was about 37% in 2010 (Kumar, 2009). Hence, SMEs and startups are identified as critical players helping the government to solve the unemployment problem and continue as an economic growth contributor (Fakhrul & Wan Norhayate, 2011).

1.3 Problem Statement

The aforementioned importance and benefits of entrepreneurship has spurred governments around the globe to attempt to develop entrepreneurial mind-set and competencies in universities and among graduates, in order to generate more adaptable graduates who can start their own businesses or find job in their relevant field (Bienkowska, Klofsten, & Rasmussen, 2016). That's the main reason behind Entrepreneurship Education Programs (EEP) in higher education institutes. Moreover, most institutions provide EE in order to encourage entrepreneurial activities, like

consulting, licensing and university spin-offs (Abreu & Grinevich, 2013; Berggren & Lindholm Dahlstrand, 2009; Bienkowska et al., 2016).

In Malaysia, the education sector has also been receiving substantial attention from the government. With considerable budget allocation, and supporting policies along with several initiatives, the Malaysian government has been trying to develop its education sector. Large portion of this investment has spent to encourage entrepreneurship in universities, by providing entrepreneurship programs, supporting students' entrepreneurial projects and universities' spin offs.

However, although these programs and initiatives aim to increase graduates self-employment, the trend of graduate entrepreneurship is not promising. Md Yusof, Rohan, and Yong Zulina (2009) investigated the graduates' status in Malaysia and identified that only 1.1% of graduates were self-employed. The bleakness of the situation becomes more concerning when the graduate unemployment rate is also considered. Studies report a high percentage of graduates are either unemployed or were unable to pursue a career in industries relevant to their field (Awang-Hashim et al., 2015; Lim, 2008). Sport graduates are no exception and the same problem can be clearly detected in sport programs in universities, as the rate of graduates unable to find employment in the industry is significantly high (Hansen, Minten, & Taylor, 1998; Minten & Forsyth, 2014; Sleap & Reed, 2006) .On the other hand, as Sirat and Azman (2014) point out, Malaysia, with the enrolment of almost one million students, has reached the phase known as massification. This indicates that the problem of graduate unemployment will persist (Awang-Hashim et al., 2015) and would only grow if left to its current situation.

The underlying problem is the unsatisfactory outcomes of entrepreneurship trainings carried out by many universities over long periods of time, which is reflected

in the failure of the education systems in preparing the students for their respective industries. Despite enormous opportunities in the sport industry and graduate level knowledge and skills that are capable of improving daily lives, sport disciplines have produced fewer entrepreneurs than they intended. In the nascent sport industry of Malaysia, the responsibility of sport faculties in training competent and entrepreneurial graduates is significantly more substantial in comparison to well-established sport industries; it could potentially set the tone for the future and envision the progress of the sport industry. The challenge is significant and needs much more attention from academia. This study employed an educational design-based approach to develop an effective sport entrepreneurship course for sport students in Malaysia.

1.4 Research Objectives

This research aims to achieve the following objectives:

1. To design a standard and effective sport entrepreneurship course for students of sport programmes in Malaysia. (The primary objective)

2. To examine the effect of sport entrepreneurship course on the students' EIs.

3. To investigate the effect of sport entrepreneurship course on the students' attitude towards entrepreneurial behaviour.

4. To examine the effect of sport entrepreneurship course on the students' perception of subjective norms (SNs).

5. To investigate the effect of sport entrepreneurship course on the students' perceived behavioural control (PBC).

1.5 Significance of the Study

The significance of this research lies in its approach to both theory and practice. EEPs, as mentioned earlier, have not been very successful in terms of generating graduate entrepreneurs. This has resulted into many academic investigations to explore the impact of EE on students' entrepreneurial behaviour.

There are numerous factors behind the inefficiency of EE, many of which are well researched; in addition to behavioural traits, contextual factors (e.g. universities) and regional factors (include infrastructural, social, cultural, political and etc.) and financial resources, as well as the education system and characteristics of entrepreneurship courses affect the transformation of students and graduates into entrepreneurs. Entrepreneurship researchers have done extensive research on most of these factors, such as regional factors (arguably the most frequently observed spatial context in entrepreneurship research (Bergmann, Hundt, & Sternberg, 2016), including *cultural issues* (e.g., Brancu, Guðmundsdóttir, Gligor, & Munteanu, 2015; Lee, Lim, & Pathak, 2011; Mueller & Thomas, 2001; Villasana, Alcaraz-Rodríguez, & Alvarez, 2016), *infrastructure* (e.g., Mars, Slaughter, & Rhoades, 2008) and *social factors* (e.g., Buttar, 2015), contextual factors, including family background (e.g., Ahmed, Nawaz, & Ramzan, 2011; Aldrich & Cliff, 2003; Altinay, Madanoglu, Daniele, & Lashley, 2012; Kirch & Tuisk, 2015; Popescu, Maxim, & Diaconu, 2014) and university's role (e.g., Morales-Alonso, Pablo-Lerchundi, & Núñez-Del-Río, 2016; Naval, Pascual, Ramos, & Pomeda, 2015; Saeed, Yousafzai, Yani-De-Soriano, & Muffatto, 2015) and entrepreneurial traits (e.g., Afolabi, Ola-Olorun, Abereijo, & Uchegbu, 2016; Altinay et al., 2012; Espíritu-Olmos & Sastre-Castillo, 2015; Kolb & Wagner, 2015; Lüthje & Franke, 2003; Robin, 2016).

However, taking EI as the best predictor of entrepreneurial behaviour (Krueger & Carsrud, 1993), literature shows too little attention from scholars on the study of EEPs and the way they impact EIs and attitudes of students (Fayolle & Gailly, 2015; Krueger & Brazeal, 1994; Krueger & Carsrud, 1993; Gorman, Hanlon, & King, 1997; Peterman & Kennedy, 2003; Souitaris, Zerbinati, & Al-Laham, 2007). More specifically, the extant literature, not only in sport but generally in all the other fields, lacks studies that highlight the characteristics of standard and effective EEPs. Such characteristics like instructional design, pedagogical objectives and approaches, and specific discipline-oriented contents and skills that should be considered for designing and developing a course for students from specific disciplines. Previous studies have focused on entrepreneurial attitudes, intentions and behaviours of students, but not the course itself. After an extensive and systematic review on EE, and Sport Management literature, an evident gap was identified that would require interdisciplinary studies to fill.

This interdisciplinary educational design-based research (EDBR), with pre-test/post-test approach, is the first study that investigates the relationship between EE and EI among sport students through an intervention that is designed and developed specifically for sport students. In order to design the intervention of this research, three fields of education, entrepreneurship and sport are taken into consideration; this makes this study significant from theoretical point of view.

From the practical perspective, statistics show sport industry in Malaysia needs more innovation and practice. Universities can give a helping hand to the government by producing more sport entrepreneurs. This type of research can provide practical insights for entrepreneurship instructors to better customize their courses based on students specification; namely academic disciplines, cultural, social and business

environment. Since there has been no similar research, conducting this study seems necessary and this research is significant.

1.6 Definition of Terms

1.6.1 Sport Entrepreneurship

Sport entrepreneurship can be simply defined as any form of self-employment and/or entrepreneurial activities carried out in the sport industry.

1.6.2 Sport Industry

Sport industry is a market that offers sport, recreation, fitness, or leisure in forms of goods, activities, services, people, places and ideas as its product to its customers (Pitts & Stotlar, 2013).

1.6.3 Entrepreneurship Education (EE)

EE is the pedagogical processes through which entrepreneurial knowledge and skills are instructed and learners will be encouraged to develop entrepreneurial behaviours (Binks, 2005).

1.6.4 Educational Design-based Research (EDBR)

EDBR is a form of linking different scientific disciplines in the educational context (McKenney & Reeves, 2013) in order to develop/produce new practices or artifacts and theories that can potentially influence the learning and teaching experience in real world settings (Barab & Squire, 2004).

1.6.5 Theory of Planned Behaviour (TPB)

Introduced by Ajzen (1991), it explains that human intentions are the best predictor of one's behaviours and depend on three conceptual factors, namely Attitude toward Behaviour (ATB), Subject Norms (SNs), and Perceived Behavioural Control (PBC)

1.6.6 Entrepreneurial Intention (EI)

Person's desire or state of mind, which directs his/her attention as well as action to start a business (Souitaris et al., 2007).

1.7 Organization of the Thesis

This study consists of five chapters. After providing the background of the problem, the objectives of this research are presented. Moreover, the significance of this study is also provided in this chapter, along with definitions of key terms that are going to be used in this research. The second chapter presents the review of the relevant literature, including graduate entrepreneurship, sport entrepreneurship, several aspects of EE, EIs and different intentions-based models, and relationships between EE and EI. In the third chapter, first the concept of EDBR is explained and then the overview of design process and details of participants and data collection are provided. In the second half of chapter three, the overview of intervention, instrumentation and data collection processes along with statistical tests that will be conducted in analysis section are presented. The fourth chapter includes three broad sections, including design phase, intervention results and findings of follow-up enquiry. The results are discussed in the fifth chapter, and limitations and implications of the research are provided.

1.8 Summary

In this chapter, the importance of entrepreneurship for individuals and economic development of countries were explained. Despite numerous initiatives and strategies, universities have been unsuccessful in producing graduate entrepreneurs, and in many majors, including sport there are many graduates who work in non-relevant industries. The need for studies that provide systematic approach for designing EEPs was discussed. The research objectives and research questions were provided, among them determining the characteristics of an effective sport entrepreneurship course, and

investigation of the effect of EE on EI were the primary qualitative and quantitative objectives of this study.

CHAPTER 2: LITERATURE REVIEW

2.1 Introduction

In this chapter the concept of entrepreneurship, especially in the context of sport industry is explained. Furthermore, the history of EE, different objectives of EEPs, and different types of EE are discussed. The concept of EE in the field of sport is also contextualised. Afterwards, EIs and three major intention-based models in the field of entrepreneurship are described. The relationships of EE and EI studied by different researchers are explained at the end of this chapter.

2.2 Graduate Entrepreneurship

Entrepreneurship has been regarded as a major engine for economic growth and job creation (Engelen, Kube, Schmidt, & Flatten, 2014; Lackéus & Middleton, 2015; Wong, Ho, & Autio, 2005), and in the current knowledge-based economy, it has turned into one of the leading key players of sustainable economic development (Acs, 2006; Audretsch & Keilbach, 2004; Baumol, 2004; Doh & Kim, 2014; Grossman & Helpman, 1994; Kirzner, 1997; Shane, 2000). Moreover, many scholars have emphasised on the vital importance of entrepreneurship for countries that have gone through an economic crisis (Fink, Lank, & Harms, 2013; Heitor, Horta, & Mendonça, 2014; Maresch, Harms, Kailer, & Wimmer-Wurm, 2016). The role of entrepreneurship has also been highlighted in resolving various economic and social issues that today's societies are grappling with; one notable example of which is increasing graduate unemployment (Autio, Keeley, Klofsten, Parker, & Hay, 2001; Bagheri & Pihie, 2014; Firdaus, Hamali, Rahman Deen, Saban, & Abg Abdurahamn, 2009; Liñán & Chen, 2009; Mastura & Abdul Rashid, 2008).

Researchers and educators have been paying increasing attention to entrepreneurship as a growing choice in career path because of its critical role in

furthering socioeconomic development in both developing and developed countries (BarNir, Watson, & Hutchins, 2011; Matlay, 2006; Mueller & Thomas 2001; Murali, Mohani, & Yuzliani, 2009; Pihie & Bagheri, 2013). One form of entrepreneurship that has received significant attention from governments as well as researchers in recent years is graduate self-employment. The potential of university graduates to become entrepreneurs is notably high (Black & Smith, 2006; Campanella, Della Peruta, & Del Giudice, 2013; Herrmann, Hannon, Cox, Ternouth, & Crowley, 2008), therefore this area offers rich opportunities for entrepreneurship studies.

There have been different definitions offered for graduate entrepreneurship. Rwigema and Venter (2004) indicate that a graduate entrepreneur is an individual in the process of starting a business as a career. Graduate entrepreneurship refers to the "interaction between the graduate as the product of university education and business start-up in terms of an individual's career-orientation and mind-set towards self-employment" define a graduate entrepreneur as someone who is in the process of starting a business and is doing it as his/her career option; more explicitly the term refers to the interaction that occurs between the graduate, the product of university education, and an start-up venture in terms of both self-employment mind-set as well as one's career choice (Nabi & Liñán, 2011). Another definition of graduate entrepreneur is someone with tertiary education, received from a higher education institute, who describes his/her employment status as "self-employed" (Mohamad, Lim, Yusof, & Soon, 2015).

Graduate entrepreneurship is increasingly gaining recognition for its critical importance in economic growth. Many developing countries are trying to improve business education and graduate entrepreneurship in order to boost a culture of graduate venture creation and enhance economic growth and national competitiveness. For

developing countries, the challenge lies in producing graduate entrepreneurs and creating supportive environments to foster their development (Hannon et al., 2004; Nabi & Liñán, 2011).

Factors that influence the pattern of graduate self-employment have been discussed in the literature. Early studies have indicated shown that age and gender can influence the pattern of graduate entrepreneurship across regions and cultures; an ordinary result that comes up in graduate entrepreneurship research (Lüthje & Franke, 2002; Peterman & Kennedy, 2003; Smart, 1986) or more broadly, research on young people (Poschke, 2008; Reynolds, Storey, & Westhead, 1994). Nevertheless, other factors have also been studied to evaluate their effects on graduate entrepreneurship. Campanella et al. (2013) point out that other than age, gender and ethnicity, another important factor which has become a point of attention in recent studies, is family background (Åstebro, Braunerhjelm, & Broström, 2013; Braunerhjelm 2007; Brewer, Eide, & Ehrenberg, 1999; Shane, 2004). Le (1999) explains that having a father with entrepreneurial experience increases the likelihood of choosing self-employment for a young graduate. The positive effect of family background and self-employed parents on graduate self-employment has been reported consistently in the literature (Aldrich, Renzulli, & Langton, 1998; Dunn & Holtz-Eakin, 2000; Hout & Rosen, 2000; Hundley, 2006; Scott & Twomey, 1988; Tackey & Perryman, 1999).

On the other hand, there are studies that have investigated preferences and reasons supporting wage employment over self-employment among graduates. According to Campanella et al. (2013) young people do not detect opportunities that are valid all the time, and this is a significant barrier in graduate entrepreneurship. Some studies point out to higher income in wage jobs as the reason behind interest among graduates towards joining wage-employment (Bernhardt, 1994; Castagnetti & Rosti,

2011; Fujii & Hawley, 1991; Georgellis & Wall, 2005; Taylor, 1996). However, there are studies that have found no significant relationship between income and choice of employment among graduates (Dolton & Makepeace, 1990; Rees & Shah, 1986). Moreover, Castagnetti and Rosti (2011) found that better educational performance increases the likelihood of graduate wage-employment that employment protection legislations and its appeal for graduates might be the underlying reason. In contrast, Dolton and Makepeace (1990) found no correlation between educational performances of graduates with their employment method of choice.

When discussing influential factors, it is said that becoming an entrepreneur occurs when an individual evaluates opportunities and motivations in a personal decision-making process (Doms, Lewis, & Robb, 2010; Evans & Leighton, 1989; Gilad & Levine, 1986). In addition, entrepreneurship doesn't happen without entrepreneurial skills and knowledge (Lofstrom & Bates, 2013; Tegtmeier, Kurczewska, & Halberstadt, 2016). People with the right motivation need the necessary skills to identify opportunities and transform their projects into successful entrepreneurial ventures (Campanella et al., 2013; Falck & Woessmann, 2010; Folta, Delmar, & Wennberg, 2010; Fox, 1993). Despite the importance of regional context, such availability of resources and customers, (Davidsson & Honig, 2003; Mosey & Wright, 2007), the students' entrepreneurial activities are not restrained by said context and universities can foster them in their initial steps in becoming graduate entrepreneurs regardless of location (Bergmann et al., 2016).

The role of universities and Higher Education Institutions (HEIs) has been highlighted in the new economies (Guerrero, Liñán, Toledano, & Urbano, 2009). Numerous research have focused on university graduates and their capacity towards promoting entrepreneurship (Autio et al., 2001; Krueger, Reilly, & Carsrud, 2000;

Liñán & Chen, 2009). Knight (1991), as an early advocate of EE, suggests vocational courses have some beneficial aspects for emerging entrepreneurs. The confidence in the influence of EE on potential graduate entrepreneurs was shared by other researchers as well (Matlay, 2006). Reynolds (1997), found that education in general and EE in particular have a positive impact on the tendency towards self-employment. Bates (1995) argues that in a comparison between entrepreneurs with higher educational achievements and ones who lack formal education, the former appear to have a better performance, and their companies survive longer (Matlay, 2006). Studies show that university education helps with improving entrepreneurial attitude in young people (Davey, Plewa, & Struwig, 2011; Gorman et al., 1997; Pittaway & Cope, 2007). Audretsch (2014) argues that universities in an entrepreneurial society should contribute to entrepreneurship capital through providing 'thinking, leadership and activity'. Campanella et al. (2013) assert that universities should provide specific training programs and activities that nurture an enterprise culture that leads students with potential to become successful entrepreneur; essentially promoting an entrepreneurial environment. Increasingly, universities and other HEIs attempt to offer necessary knowledge and skills to their students to start businesses or otherwise develop entrepreneurial attitudes, through entrepreneurship courses and encouraging them to participate (Bergmann et al., 2016).

2.3 Sport Entrepreneurship

Sport entrepreneurship can be simply defined as any form of entrepreneurial activities carried out in the sport industry. However, a better definition of sport entrepreneurship can be achieved through defining sport industry. Although sport industry is large and highly visible globally (Ratten, 2012), finding a single definition for it is not an easy task (Humphreys & Ruseski, 2010). Pitts and Stotlar (2013) define sport industry as a

market that offers sport, recreation, fitness, or leisure in forms of goods, activities, services, people, places and ideas as its product to its customers. Gratton (1988) describes this industry as a pyramid; the small elite sector, professional and intercollegiate sport leagues, broadcast deals, paying customers, and government subsidies for facilities, is at the top of the pyramid. The base of the pyramid consists of the large public participation in sport, and the relevant economic activities range from purchasing sport apparel and equipment, traveling to competitions and events, government facilities, and time spent in activities (Humphreys & Ruseski, 2010). The sport industry covers the activities that deliver goods, services and everything sport-related to the public. One major survey categorizes the sport industry into eight areas; fitness and leisure, competitive sports, sport training, intermediary sports services, sporting goods business, stadium construction, and sport tourism and exhibition (Haichao, 2013).

Moreover, scholars have varying views about the concept of the sport industry as well. Zhang (2015) argues that there are two concepts of the industry; one is generalized in which the term refers to all sport-related production and operation sectors with the products being materials, labour and services and its basic sectors being fitness and leisure industry, the spectator sport industry, the sports estate industry, the sports goods industry, the sports media industry, the sports lottery, sports advertising, and sports training, and the second narrower concept that views the industry as the collection of sectors that produce and offer sport services and products or the collection of sectors that puts forwards a wider variety of sport services for a wider society; fitness, entertainment, the sports spectator industry, consultation and training, sports tourism, sports brokerage, and the sports lottery industry belong in this category. The distinction between the two is that the generalized concept incorporates

all sectors of sports material goods or sport services in labour form, but the narrow concept only focuses on the sport service sector.

The importance of sport has been investigated and discussed from various angles. Milano and Chelladurai (2011) believe that around the globe sport has become a prominent feature. In the route to development, sport has been used as a practical tool (Reis et al., 2016). Sport has high cultural importance, while being a source of social capital generation for organizations, individuals, and all relevant institutions (Dyreson, 2001). It is said to play an important role in enhancing social responsibility interdependence and in nurturing common interests (Bolle & Desbordes, 2005; Desbordes, 2012; Ratten, 2010). While the impact of sport at the social and cultural levels is significant, its economic impact has emerged as one of the dominant topics of discussion among scholars (Milano & Chelladurai, 2011).

The sport industry of a country is heavily influenced by its economy and its structural development. Some of the vast business opportunities provided by the sport industry with impact on economic development include: merchandise market development, employment market development, enhancing international relations, and increasing space for commercial advertising (Hsiao et al., 2012). The incredible speed of growth in the sport industry has been discussed by many researchers (Hums et al., 1999; Pedersen & Thibault, 2014; Pitts & Stotlar, 2002; Southall, Nagel, LeGrande, & Han, 2003).

In addition, recent studies highlight the striking development in different sectors of sport industry; some example of which include studies that reveal the growth and diversification of sport events and tourism sector (Dickson & Arcodia, 2010; Golob, Lesjak, Fabjan, Jakulin, & Stamenković, 2015; Pernecky & Lück, 2013), or the research that report on innovation in today's sport journalism (Manfredi-Sanchez,

Rojas-Torrijos, & Herranz-de-la-Casa, 2015). Moreover, Kang et al. (2015) highlight the rapid penetration of IT industry in the sport industry and among sport businesses. Likewise, Jones and Jones (2014) report significant progress in the fitness section of sport industry as well as coaching businesses in recent years. Pedersen and Thibault (2014) point out that the growth is not limited to the introduction of new sports, it is also reflected in the surge in opportunities to participate in sport activities, increase in types and numbers of sport publications and social media platforms, better mass media exposure, improvements in variety and availability of facilities, higher interest in sport tourism and adventure travels, and supply of sport goods and services for a broader market. The significant development in the sport industry has created endless opportunities for employment, and more importantly for entrepreneurial activities. All the evidence point to the massive impact the sport industry can potentially have on the world economy, which calls for continuous attention from entrepreneurship researchers as well as management ones (Ratten, 2012).

Having discussed the definition and some other aspects of sport industry makes defining sport entrepreneurship to some extent easier. However, what constitutes sport entrepreneurship is still an unresolved issue which means that there is no clear and exact definition of the phenomena (Ratten, 2012). The literature reflects an evident and severe lack of content on topic of sport entrepreneurship, which shows the need and necessity of more research in the field. One of the few available definitions of sport entrepreneurship has been provided by Ratten (2012); broadly as any innovative activity with sports objective that is improved with risk taking behaviour and proactive quality. In the same study she further defines sport entrepreneurship as the mind-set of people or organizations that are actively seeking new opportunities in sport industry. The phenomena refers to innovative activities in sports as a context where most

activities are innovative, it revolves around processes, practices and decisions that lead to products, services or markets. Since the sport industry engages with a variety of small and large businesses from different sectors (Borgese, 2010) the opportunities for entrepreneurial activities are endless in different segments of sport industry (Pitts & Stotlar, 2013).

Sport industry was classified into three segments of 'performance, production and promotion' by Pitts, Fielding and Miller (1994). Later, Hums et al. (1999) categorised this industry into five segments of 'professional sport, college sport, health and fitness, recreational sport and facility management'. Another segmentation for the sport industry was suggested by Pitts and Stotlar (2013), who explain that the sport industry includes tourism, sporting goods and products, apparel, amateur and professional participant sports, recreation, college athletics, outdoor sports activities, and sports-related ventures like sport marketing companies, the sport sponsorship industry, and sport governance activities. Sport industry is a huge market in which anyone can be potentially successful by linking his/her personal interest in sport with an interest/expertise in other industries or sectors. Therefore, sport entrepreneurship can occur through an innovative sport-related product, service, people, places, and ideas. Figure 2.1 illustrates sport industry segments wherein sport entrepreneurs can carry out their entrepreneurial activities.

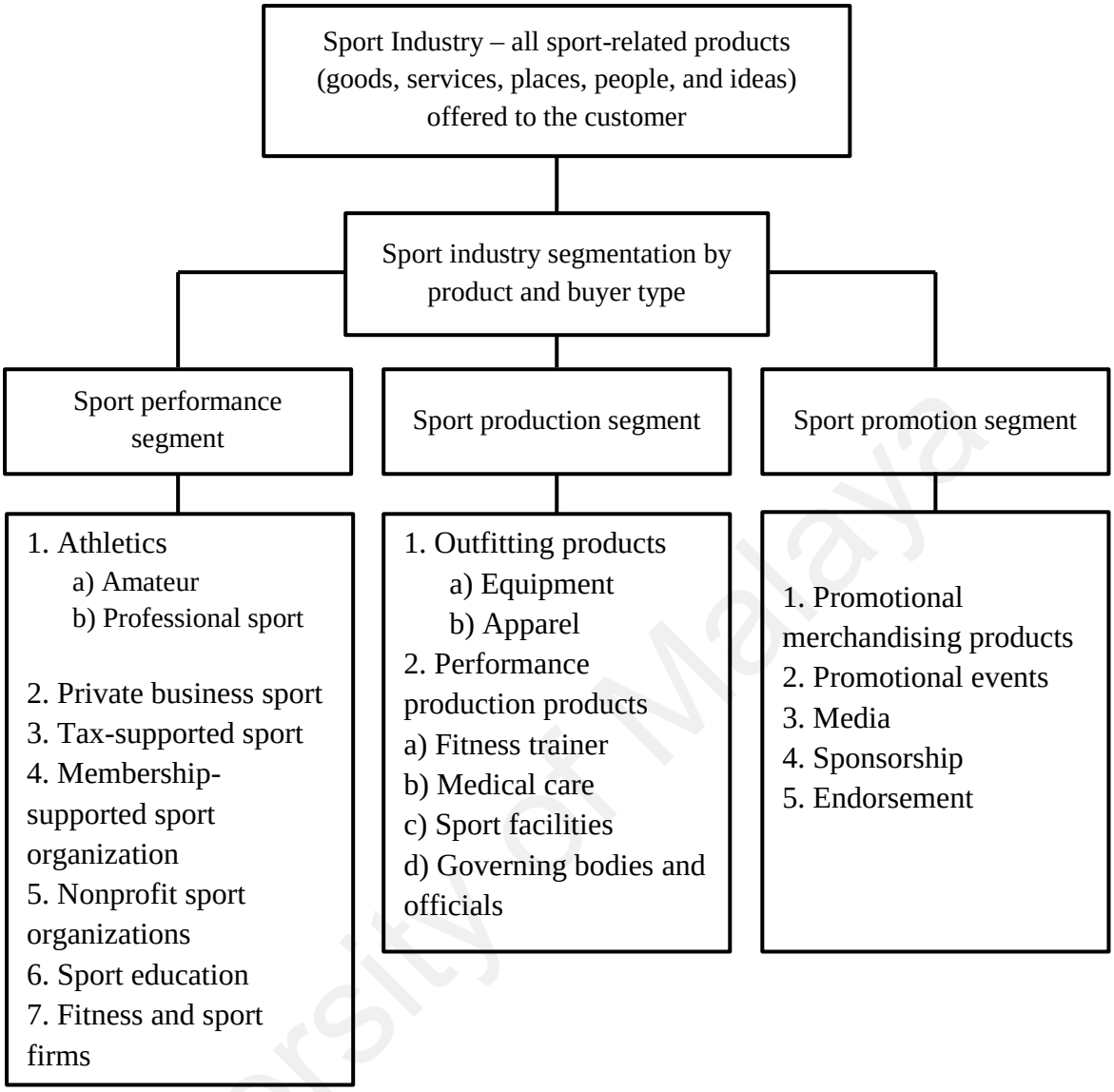

Figure 2.1: Sport Industry Segmentation and Products (Pitts, Fielding, & Miller, 1994)

Apart from the commercial aspect and the numerous profit-making opportunities in the sport industry, there are unlimited non-profit activities available that help social and cultural developments as well as peace and harmony both domestically as well as internationally. Therefore, a pure business approach cannot always be adapted and the circumstances always depend on the context. At the same time, as Kahn (1977) once said, "sport is too much a game to be a business and too much a business to be a game", the industry is considered a high value-add one with the potential to lead the future (Haichao, 2013; Kang et al., 2015). That is why both

governments and academia have been paying close attention to the growth of sport industry (Zhang, 2015). Jones and Jones (2014) assert that for nascent entrepreneurs to flourish they must be provided with effective support and training. As in any large industry, the magnitude of sport industry requires people with the right education to manage and run the wide range of sport related businesses (Borgese, 2010; Pitts & Stotlar, 2013).

2.4 Entrepreneurship Education

> *"Most of what you heard about entrepreneurship is wrong. It's not magic, it's not a mystery, and has nothing to do with genes. It is a discipline, like any other discipline, and it can be learned." - Peter Drucker*

Many scholars, now, have no doubt that entrepreneurship can be taught; this is no longer a topic of debate (Drucker, 1985; Gorman et al., 1997; Kuratko, 2005; Maresch et al., 2016; Premand et al., 2016; Rauch & Hulsink, 2015). Although critics of education systems and those with a traditional regards towards business believe that entrepreneurs are born, there are studies that report successful entrepreneurship is strongly tied with previous entrepreneurial experience and not so much formal education (Dencker, Gruber, & Shah, 2009; Folta, Johnson, & O'Brien, 2006; Martin, McNally, & Kay, 2013). However, this does not undermine the importance of EE and its positive influence on participants. Indeed, numerous studies highlight the potential effectiveness of EE and its various impacts on the participants.

The Results of a comprehensive meta-analysis on EE research (Bae, Qian, Miao, & Fiet, 2014) show that there is an association between EE and entrepreneurial self-efficacy of students, and entrepreneurial self-efficacy is the belief in one's ability to undertake and execute various entrepreneurial tasks and roles with success (Chen, Greene, & Crick, 1998; DeNoble, Jung, & Ehrlich, 1999; McGee, Peterson, Mueller, &

Sequeira, 2009) and is considered to be one of the triggers of EIs (Douglas, 2013; Fitzsimmons & Douglas, 2011; Krueger et al., 2000; Maresch et al., 2016; Scott & Twomey, 1988; Segal, Schoenfeld, & Borgia, 2007; Wang, Wong, & Lu, 2002; Zamberi Ahmad, Roland Xavier, & Rahim Abu Bakar, 2014). Moreover, numerous studies show EE can increase the EIs of students (Kolvereid & Moen, 1997; Maresch et al., 2016; Martin et al., 2013; Peterman & Kennedy, 2003). In addition, EE can improve the ability of identifying entrepreneurial opportunity in participants (Shane, 2000; Suddaby, Bruton, & Si, 2015; Venkataraman, 1997).

EE is defined as 'the structured formal conveyance of entrepreneurial knowledge' by Young (1997); and entrepreneurial knowledge is 'the concepts, skills and mentality' that founder, owner or manager of any enterprise requires (Anderson & Jack, 2008). Moreover, according to GEM 2012 Global Report (Xavier et al., 2012, p.35) EE is "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". There is no doubt that EE is not just the preparations for running a business; it aims to develop entrepreneurial skills, attitudes, and knowledge which in turn would help students to transform their ideas into actions (European Commission, 2014). According to Liñán (2008), EE is mainly concerned with "attitudes, intentions, and the firm creation process" (Bae et al., 2014). Fayolle, Gailly and Lassas-Clerc (2006) explain that EEP is broadly defined as "any pedagogical programme or process of education for entrepreneurial attitudes and skills, which involves developing certain personal qualities" and should be defined from various aspects, including aims and objectives, situations and instructional approaches.

The traditional approach towards EE was to regard it as a means of generating entrepreneurs (Laukkanen, 2000; Solomon, Duffy, & Tarabishy, 2002). However,

findings of the last two decades on EE underline that venture creation cannot be the only criterion for assessing the efficacy of EE. Therefore, EE programmes should consider other objectives as well (Fayolle et al., 2006; Kucel, Róbert, Buil, & Masferrer, 2016; Rideout & Gray, 2013). The European Union suggests three major outcomes for measuring EEPs effectiveness: first, improving the entrepreneurial mind-set of young people to enhance their creativity and self-confidence in all their works as well as increasing their attractiveness for employers, second, encouraging innovative start-ups, and third, improving entrepreneurs' role in economy and society (European Commission, 2012). This leads to measuring what the traditional approach requires, *i.e.* core entrepreneurial skill competencies and EI, as well as employability, and the acknowledgement of the influence that entrepreneurship has on society and economy (Robert, Hoy, Katz, & Neck, 2014).

In addition, Souitaris et al. (2007) point out that so called trigger-events can be one of the main benefits of EE. Trigger-events are moments, experiences or events during or due to an entrepreneurship programme which cause an increase or decrease in EI. Their argument is closely related to that of Shapero and Sokol's Entrepreneurial Event Model (1982). The base of this model is on the assumption that a "displacement event" alters desirability and feasibility perceptions of target behaviour (Fayolle et al., 2006). Moreover, Wennberg, Wiklund, and Wright (2011) assert that there is the possibility of positive effect in the long run in nurturing nascent entrepreneurship amongst students through education. If students and graduates gather entrepreneurial experience while they study, it could lead to facilitating future business development and startup activities (Bergmann et al., 2016; Wennberg et al., 2011).

Moreover, Studies also show that EE, generally, has a positive impact on entrepreneurial skills (Bae et al., 2014; Martin et al., 2013; Oosterbeek, van Praag, &

Ijsselstein, 2010) and enhances the entrepreneurial alertness of students. A research conducted by Kucel et al. (2016) shows entrepreneurial skills gained from EE enhances the opportunity of finding job offers matching the skills of graduates, and would equip the participants for an economic environment that is changing constantly and rapidly, and by that, increases their productivity even in wage employment. Additionally, EE can improve capabilities such as creativity, flexibility and problem solving (Albornoz Pardo, 2013; Boyles, 2012; Kucel et al., 2016) that are necessary and helpful for any entrepreneurial activity. This section presents a brief history of EE, different types of EE in general and in non-business disciplines, including sport studies.

2.4.1 History of Entrepreneurship Education

The history of EE is relatively long (Katz, 2003; Kuratko, 2005) developing into a prominent field over time (Davidsson, 2008; Maresch et al., 2016). There are different views on exactly when EE began to rise. The EE history could go back to 1938 when Shigeru Fuji, a teacher in Kobe University, Japan started teaching entrepreneurship (Alberti, Sciascia, & Poli, 2004; Keat, Selvarajah, & Meyer, 2011; McMullen & Long, 1987). However, according to Kent (1990) the first entrepreneurship courses in colleges and universities began in 1970s to teach small business management. Katz (2003) on the other hand, mentions that courses on entrepreneurship were available in both Great Britain and USA from the 1940s and onwards. On a different note, Carlsoon et al. (2013) date the first entrepreneurship course to 1974 in Harvard Business School (Hoppe, 2016).

Regardless of the date of its appearance, EE has gone through significant growth in the second half of twentieth century. In the 1970s there were only a few universities offering entrepreneurship courses and that has changed dramatically to more than 400 in few decades (Vesper & Gartner, 1997). According to Katz (1994)

over 120,000 American students participated in entrepreneurship or small business course in 1994. Researchers have been constantly discussing the rapid growth of institutions and amount of resources going into EEPs (See, e.g., Katz, 2003; Rasmussen & Sørheim, 2006; Vesper & Gartner, 1997). Pursuant to the 1970s trend in the USA (Fiet, 2001), both sides of the Atlantic have seen a remarkable increase in the numbers of public and private initiatives aiming to make people more entrepreneurial (Fayolle, et al. 2006). The numbers of entrepreneurship-related courses have risen dramatically in the past two decades in both Europe and the USA (European Commission, 2012; Hoppe, 2016; Kuratko, 2005). Over half a century, the EE evolved from one entrepreneurship course to a massive and diverse field offered in more than 1500 colleges and universities worldwide (Charney & Libecap, 2000; Rasmussen & Sørheim, 2006).

This field is drawn from diverse disciplines, including management, education, economics and technical studies (Davidsson, 2008; Maresch et al., 2016). Initially, EEPs comprised of courses and lectures about small business management in the 1940's (McMullen & Long, 1987). At the time such courses covered a spectrum of knowledge and managerial skills close to traditional professional management education (Zeithaml & Rice, 1987). However, with time courses started to drift away from the traditional approach and moved towards more modern concepts of entrepreneurship. The distinction between EE and traditional business education comes from special skills, integrated nature, and enterprise lifecycle in new firms (Zeithaml & Rice, 1987).

Despite being closely related in providing students with the necessary knowledge to come up with a business concept, evaluate its feasibility, launch and operate, and establish exit strategies (Solomon, Weaver, & Fernald, 1994), there were

important differences between traditional and new EEP courses (Solomon & Fernald, 1993; Zeithaml & Rice, 1987). The traditional courses on small business management focus on existing businesses and achieving normal sales, growth and profit within them, with the objective of providing students with managerial now-how on how to operate small, post-startup companies including "setting goals and objectives, leading, planning, organizing and controlling from a small business perspective" (Solomon & Fernald, 1993, p.5). EE on the other hand, focuses on generating new growth ventures (Guglielmino & Klatt, 1993) while emphasizing rapid growth, high profitability, and exit strategies (Solomon et al., 1994).

Despite the remarkable growth of business management an EE over the last few decades, the consensus is that it is far from maturity (Robinson & Hayes, 1991). With the constant evolution of the field, its relevance, content, effectiveness, and pedagogy continue to be discussed (Solomon et al., 1994). At earlier stages, the debate revolved around the need for entrepreneurship course and assessment of entrepreneurship courses to assert if they are new or just management courses with a new name (King, 2001). Generally, it is agreed that success in any business career requires the core business courses from traditional business programmes (Block & Stumpf, 1992; Vesper & McMullan, 1987); however, business principles for new ventures and those that are applied to big companies have important differences (Davis, Hills, & LaForge, 1985).

Moreover, traditional business programmes such as finance, accounting or marketing had the functional specialist focus on the concepts, but modern EEPs have a generalist approach which integrates a wide range of functional knowledge and skills (Hills, 1988; Block & Stumpf, 1992). In addition, one important change in modern EE is its focus on the development of early lifecycle business challenges; in particular, those that startups usually deal with them (Vesper & McMullan, 1987) such as

opportunity discovery, effectuation (Fayolle, 2006), market entry, the legal requirements of startups and intellectual property rights (Loucks, 1982; Hills, 1988).

Vesper and McMullen (1988) highlight a core objective of EE that differentiates it from typical business education and traditional small business management education which is "to generate more quickly a greater variety of different ideas for how to exploit a business opportunity, and the ability to project a more extensive sequence of actions for entering business…" (p.9). As Gartner and Vesper (1994) point out, starting a new business is a basically a different activity than managing a small business, and the new approach of EE takes the equivocal nature of startups into account (Gartner, Bird, & Starr, 1992). To this end, the modern EEPs have changed from the traditional skills required for managing small businesses to new concepts that young entrepreneurs require; including creative thinking, new product development, leadership, negotiation skills and exposure to technological innovation (McMullen & Long, 1987; Vesper & McMullen, 1988). Although in recent years new topics (such as social media skills, crowdfunding and etc.) have been included into the EE agenda, the core structure of these courses and programmes has mainly been the same (Hoppe, 2016; Pittaway, & Cope, 2007).

2.4.2 Entrepreneurship Education in Malaysia

In Malaysia, social changes resulted from a number of social, economic and historic factors such as the Asian financial crisis 1996/1997, the global economic recession 2010/2011, competitive globalised economy and divergent business environment have made entrepreneurship more important than ever before. Policy makers have recognized the economic value of entrepreneurship and how supporting its development could be a sustainable investment in the country's future (Ahmad & Buchanan, 2015). The Malaysian Governments have responded to these changes with

different plans and strategies. Apart from supporting entrepreneurs and business owners, the Malaysian governments have tried to produce more entrepreneurs through investing on education. Therefore, governments have made it compulsory entrepreneurship courses to attend at public universities to expose students to an entrepreneurial environment at early stages (Ahmad, Ismail, & Buchanan, 2014; Jafaar & AbdulAziz, 2008; Yusoff, Zainol, & Ibrahim, 2014).

Since the mid-1990s, many higher education institutions and universities in Malaysia have started offering entrepreneurship-related courses or majors, with the hope to prepare graduates for self-employment (Ahmad, 2013). There has been growth reported in entrepreneurship development in Malaysia since these EEPs started (Mohd Khairuddin & Syed Azizi, 2002; Mahmoud, Kastner, & Yeboah, 2010). According to Mohamad et al. (2015) total of 13 universities offer EEPs, including compulsory, core or elective courses, in Malaysia. These universities are perceived as mediums through which students receive EE as an interventional tool in establishing sustainable enterprising societies, and are prepared with essential entrepreneurial skills to compete in an increasingly globalised market (Yu Cheng, Sei Chan, & Mahmood, 2009). As Ahmad and Buchanan (2015) assert, although strong articulated entrepreneurship strategies is lacking in Malaysian universities, EE is very much presented in public universities, and the role of EE is growing.

At the ministry level, the Malaysian Government Transformation Program in Critical Agenda Project (CAP) was adopted targeting education and entrepreneurial development. The Ministry of Education (MoE) has planned to increase the number of students exposed to entrepreneurship according to CAP. To achieve this target, the government has started to offer a number of entrepreneurship assistance, including funding, infrastructure, and business advisory services. This assistance is being

provided through various entrepreneurial bodies, two of which are the Graduate Entrepreneur Fund, and National Institute of Entrepreneurship (Mohamad et al., 2015; Muhammad Mu'az, Zainal Abidin, Rezai, & Mad Nasir, 2011; Sandhu, Sidique, & Riaz, 2010).

A comprehensive study on EEPs in Malaysia conducted by Ahmad and Buchanan (2015) shows the methods of teaching entrepreneurship are more theoretical, exam-oriented, and without sufficient attention to the practical aspects of entrepreneurship. Interactive methods such as inviting guest speakers and entrepreneurship-related government agencies, using case studies, simulating businesses, and interacting with successful entrepreneurs were not effectively emphasized. According to this study, all public universities in Malaysia offered some introductory entrepreneurship courses as general subjects or included in curricula of business management programs. Some universities offer small business management or entrepreneurship courses as subject, some others offer single courses on entrepreneurship-related matters, and some of the universities claimed to offer designated EE for both undergraduate and graduate degrees. Overall, the study suggests that in many ways, entrepreneurship is still an ambiguous phenomenon in Malaysia. There are other studies that came to the conclusion that EE in Malaysian universities is not effective (Ahmad et al., 2014; Yu Cheng et al., 2009; Ismail, Abdullah, & Othman, 2010). Moreover, the authors suggested that an important issue to address in Malaysian universities is EE's infectiveness in matching skill acquisition of students with their skill expectations.

There is very little diversity in most entrepreneurship courses, which indicates to a tendency among Malaysian universities to generally provide mere minimal information and entrepreneurship and enterprise development training. The capability

of these courses in achieving the high priority objectives set out by the government need to be evaluated. In order to meet individual needs, the objectives of entrepreneurship courses could be revised. EE should not restrain itself in teaching students the functions and roles of entrepreneurship, rather it should strive to enhance graduates' attitude towards self-employment, creative thinking, risk taking, and required skills for managing a newly developed business (Ahmad & Buchanan, 2015).

In terms of teaching methods, Keat et al. (2011) point out that most EEPs are teacher-centred, which need to be revised to become more student-centred. In Malaysia, arming students with necessary experiential learning activities related to entrepreneurship is of utmost importance (Yu Cheng et al., 2009; Pihie & Bagheri, 2013). Apart from the EEPs, studies show the majority of lecturers who teach entrepreneurship courses in Malaysia do not have personal entrepreneurial experience and knowledge which makes relating to real issues of launching a business and therefore helping student navigate through them a difficult task (Keat et al., 2011; Ooi & Ali, 2005). Ahmad and Buchanan (2015) indicate that even though most universities in Malaysia offer entrepreneurship-related courses, few of them offer specializations in entrepreneurship. They assert that EE should not be offered exclusively to business students and it should be broadened to cater to students across all disciplines.

2.4.3 Different Types of Entrepreneurship Education Designs

In recent years, universities have started to take up measures that would enhance entrepreneurial tendencies of students in an attempt to promote supportive contexts for business activities (Bergmann et al., 2016; Hoppe, 2015; Kuratko, 2005; Walter, Parboteeah, & Walter, 2013). The scope of entrepreneurship programmes has significantly increased in many regions of the world including Europe, Asia, North America, Australia and New Zealand (Foss, Oftedal, & Iakovleva, 2013; Gartner &

Vesper, 1994). However depending on a number of characteristics and factors, there are different types of EE (Fayolle et al., 2006; Finkle & Deeds, 2001); mostly based on objectives (Curran & Stanworth, 1989; Garavan & O'Cinneide, 1994; Liñán, 2004) and particular phases of development (Bridge, O'Neill, & Cromie, 1998; Gorman et al., 1997; McMullan & Long, 1987), or specific audiences (Fayolle et al., 2006; Jamieson, 1984; Liñán, 2004).

It is important to clarify that EE and business education are different from one another (Gartner & Vesper, 1994; Kuratko, 2005). The distinction between EE and typical business education and in other words, between an entrepreneur and a traditional manager, lies in two main goals of EE; one is the ability of faster idea generation with greater variety on how to make the best of a business opportunity, and two is the ability to display a more extensive range of actions for starting a business, either startups or personal acquisition (Vesper & McMullan, 1988). Hynes (1996) asserts that EEPs may include both entrepreneurship training and EE, in that in entrepreneurship training the goal is to develop skills and knowledge that enables effective performance, while EE's purpose is to enable adaptation and development of skills, values and knowledge that could address a broader range of problems (Fayolle et al, 2006). However, the literature reflects several suggested approaches despite a lack of general typology of EEP (Bae et al., 2014).

McMullan and Gillin (1998) postulate six distinguishing components of an EEP based on the McMullan and Long's (1987) theoretical outline, including: a) programme or course objectives, b) faculty approach and/or educator(s), c) participant, d) programme or course contents, e) teaching methods, and f) specific supports for the students to start their own ventures. According to scholars (e.g., Brockhaus, 1992; Liñán, 2004) objectives are the basic elements, under which all other components of

EEPs should be placed. In this sense, Curran and Stanworth (1989) enumerated the main types of objectives that an EEP is designed to achieve. Later, this classification of EE objectives was used by other EE scholars in their works (e.g., Garavan & O'Cinneide, 1994; Liñán, 2004). Based on this classification, an EEP should be designed to achieve one or combination of these objectives (Bae et al., 2014):

1. Participants' awareness towards entrepreneurship and self-employment; this type of EE is particularly suitable for participants with no prior business start-up experience. Its purpose would be to increase the number of people having enough knowledge about small enterprises, self-employment and entrepreneurship, so that they consider that alternative as a rational and viable option. Therefore, creation of more entrepreneurs is not a direct goal of this educational category. Rather it would be more focused on increasing entrepreneurial knowledge, desirability or feasibility among students. One example of these initiatives would be the courses that are taught at universities, usually as optional courses, in business or non-business degrees. Within these courses, the instructors' attempt is not directed at turning students into entrepreneurs, it is rather focused on enabling students for career related decisions in the future with greater perspectives. In reality many of the courses on self-employment and start-ups, particularly shorter ones, serve as awareness programmes (Curran & Stanworth, 1989; Liñán, 2004).

2. Entrepreneurial knowledge and skills required for starting a business; these skills entail the preparations needed for running a small and conventional business which is the nature of the majority of new firms, and the training would focus on specific practical start-up phase aspects such as acquiring financial capital, laws, taxation and so on (Curran & Stanworth, 1989; Liñán, 2004).

3. Enhancing entrepreneurial dynamism; it would address the post start-up phase and the dynamic entrepreneurial behaviours needed in this stage, therefore, the objectives expand. It is not just about increasing and individual's intention towards becoming an entrepreneur, it also aims to promote dynamic behaviours that would be required in an operating enterprise (Curran & Stanworth, 1989; Liñán, 2004).

4. Continuous complementary EE for existing entrepreneurs; in general, this would be a specialized training, where the goal is to enhance the abilities of an existing entrepreneur (Liñán, 2004; Weinrauch, 1984).

In addition and quite similar to this classification, some researchers classify EEPs' objectives into three main categories, namely teaching *about* entrepreneurship, teaching *in* entrepreneurship and educating *for* entrepreneurship (Foss et al., 2013; Gibb, 2002; Hytti & O'Gorman, 2004; Kirby, 2004; Laukkanen, 2000). Teaching *about* entrepreneurship aims to provide students with an overall understanding of the phenomena (Hytti & O'Gorman, 2004). The goal is to educate different stakeholders, including policy makers, financiers, and the general public on what role entrepreneurs play in the community. The objective of teaching *in* entrepreneurship is to make existing entrepreneurs more entrepreneurial and also increase creativity and innovativeness in them. The third type, educating *for* entrepreneurship, focuses on the creation of an entrepreneur following the decision to start a business (Foss et al., 2013).

Brand, Wakkee and van der Veen (2007) reviewed the literature and divided EEPs into three main types. The first EE type deals with starting a new business (Gartner, 1985; Jamieson, 1984). The general theme of this type revolves around "entrepreneurship as a process", but focused on the sources of new ideas and opportunity evaluation process, business plan preparation, access to resources, start-up, and managing growth. Although some researchers (e.g. van der Veen & Wakkee, 2004)

describe this type of EEPs as "too limited and out-dated", according to many EE experts this it is the predominant EE type (Brand et al., 2007; Gnyawali & Fogel, 1994; Cockx, de Vocht, Heylen, & van Bockstaele, 2000). The second type of EEPs considers entrepreneurship as a process of following opportunities in various contexts, with start-ups being only one of such possible settings (Hornsby, Naffziger, Kuratko, & Montago, 1993; Hornsby, Kuratko, & Montagno, 1999; Brush, Greene, Hart, & Haller, 2003). The third category of EEPs includes courses that are generally about small business management. Brand et al. (2007) explain that the first and second types are more focused on earlier phases of the process, whereas the third approach is more concerned with managing existing enterprises and growth.

Apart from the types of EEP, the content of EE has also been the subject to scrutiny and discussion (Fayolle et al., 2006; Gibb, 1988). In particular, Johannisson (1991) categorises EEPs contents into five levels: the 'know-why' or why entrepreneurs act and behave entrepreneurially (attitudes, values and motivations); the 'know-how' or how to do it (entrepreneurial skills), the 'know-who' or who should we know throughout the entrepreneurship process (social skills and networking), the 'know-when' or when to do it (intuition and experience) and last but not least, the 'know-what' or what activities need to be done (knowledge) (Fayolle et al., 2006; Souitaris et al., 2007).

The content delivered in EEPs in not any less important than the types of EE. The content of EEPs is usually selected based on the target audience; hence it varies, depending on the region, faculty, educator or even decision makers of the education system. The lack of a universal standard for the content of EEPs is attributed to these influencing factors. But this lack of consensus on the content of EEPs does not mean that EEs do not have any specific frameworks. In fact, the factor that constitutes the

main structure of EE is the consensus on the principle that entrepreneurship is a process rather than a single event; the process that starts with identifying opportunities and extends to exploitation and creation of something new (Baron & Shane, 2008). Consequently, entrepreneurship mainly depends on both opportunities and individuals (Shane, 2012).

Entrepreneurial process basically includes four permanently interactive steps, namely opportunity discovery, opportunity evaluation, reassessing need for change and idea development and eventually implementation that idea (Knight, 1991; Kuratko, 2005). Pursuant to an assumed lack of conceptual framework in entrepreneurship, Shane and Venkataraman (2000) in an attempt to improve legitimacy of the field based a framework on entrepreneurial opportunities. This framework incorporates three different phases with entrepreneurial opportunities; first the existence of the opportunity, then discovery of opportunity with prior information and cognitive properties, and third opportunity exploitation, based on the nature of the opportunity and entrepreneurs' individual differences. Another framework for EEPs was proposed by Hood and Young (1993), which includes four major areas for a successful entrepreneurship: 1) entrepreneurship content (basics), 2) entrepreneurial skills and behaviour, 3) mentality and 4) personality of an entrepreneur. Having considered these steps and frameworks, instructional designer or curriculum developer selects relevant content, based on the course or program objectives.

Additionally, EE experts have suggested addition of various soft skills in EEPs (Caird, 1992; Collins & Robertson, 2003; Guirdham & Tyler, 1992; Nabi & Bagley, 1999; Refai & Klapper, 2016). For instance, McMullan and Long (1987) believe there should be a skill building course in any EEP that includes topics like creative thinking, negotiation skills, leadership and new product development (Neck & Greene, 2011).

Refai and Klapper (2016) also suggest some other soft skills such as learning to live with uncertainty, decision making skills, ability to maintain the life–work balance, empathy development and leveraging failure. Moreover, business guru, David Birch counts three skills that entrepreneurs must master in order to become successful: selling, managing people and creating new product and service (Aronsson, 2004).

As mentioned earlier, one of the reasons that impede development of a single universal standard for EEPs content is significant regional differences, which leads to the need for establishing regional standards instead (Katz, Hanke, Maidment, Weaver, & Alpi, 2016). Currently there are a number of regional standards for EE, one of which is the North American region (launched by the Consortium for Entrepreneurship Education (CEE)) is one of the most widely known standards for EEPs content. Table 2.1 presents CEE along with two other regional standards for EE content.

Table 2.1: Examples of National Content Standards for EE (Nová, 2015)

<table>
<tr><th>EEE Guide, Ireland (2012) Major Areas of EE Outcomes</th><th>UK QAA Standards for EE (2012)</th><th>National Content Standards Consortium for EE (2004), USA</th></tr>
<tr><td>A. Entrepreneurial behaviour, Attitude and skills development</td><td>A. Developing entrepreneurial effectiveness (Enterprise awareness; entrepreneurial mind-sets; entrepreneurial capability)</td><td>A. Entrepreneurial skills
The processes and traits/behaviours associated with entrepreneurial success.</td></tr>
<tr><td>B. Creating empathy with the entrepreneurial life world</td><td rowspan="6">B. Graduate Outcomes:
- Enterprise behaviour, attributes and skills.
- Thematic approaches:
Creativity and innovation; Opportunity recognition; Decision making supported by critical analysis and judgement; Implementation of ideas through leadership and management; Reflection and action; Interpersonal skills; Communication and strategy skills.</td><td>B. Ready Skills
The basic business knowledge and skills that are prerequisites for becoming successful entrepreneurs (Business foundation; Communication and interpersonal skills; Economics; Financial literacy; Professional development; career planning)</td></tr>
<tr><td>C. Key entrepreneurial values</td><td rowspan="5">C. Business Functions
The business activities performed by entrepreneurs in managing the business.
(Financial and human resources management; Information management; Marketing management; Operations and risk management; Strategic management)</td></tr>
<tr><td>D. Motivation to Entrepreneurship career</td></tr>
<tr><td>E. Understanding of processes of business and tasks</td></tr>
<tr><td>F. Generic entrepreneurial competencies</td></tr>
<tr><td>G. Key minimum How-To</td></tr>
</table>

Similar to EEPs content, there is no universal pedagogical standard on teaching entrepreneurship either (Fayolle & Gailly, 2008) and different EE experts suggest different approaches for delivery methods in EE (Fiet, 2001; Foss et al., 2013). Kuratko (2005) demonstrates that there are several pedagogical designs for EE and they vary from business plan to venture creation**.** Business planning is used by most courses because the process of drafting business plans intends to expose learners to sets of knowledge and skills that strengthens their EI (Becker, 1964; Fayolle et al., 2006; Honig, 2004; von Graevenitz, Harhoff, & Weber, 2010; Youndt, Subramaniam, & Snell, 2004). On the other hand according to Lee, Chang and Lim (2005) many universities opt for the venture creation focus in their EE. This approach intends to teach practical steps to creating mini companies (Rodrigues et al., 2012), and because it is done through a multi-functional implementation process it helps students develop skills needed in the entrepreneurial venture (Liñán, 2007). Having reviewed the literature, other methods come up as well.

Pittaway and Cope (2007) did an extensive review and presented the following list of EE teaching methods: 1) the use of the classics method (educator-oriented), 2) action learning (student-centred), 3) new venture simulations, 4) the development of real startup, 5) experiential learning, 6) video role plays, 7) skill-based courses, 8) technology-based simulations and 9) mentoring (Hoppe, 2016). Ruskovaara, Hämäläinen and Pihkala (2016) enumerate the most frequent methods of teaching EE, including learning by doing, projects or mini projects with real clients, workshops, entrepreneurship labs and studios, cooperation with startups or small companies, small-scale sponsorship and entrepreneurial debates (Yu Cheng et al., 2009; Jones & Matlay, 2011), business simulation, study visits and games and competitions (Hytti & O'Gorman, 2004; Solomon, 2007).

Moreover, EE scholars like Kuratko (2005) and Fayolle et al. (2006) believe that inviting entrepreneurs to the class can enhance students' entrepreneurial knowledge and skills (Walter & Dohse, 2012), although this idea had already been criticised by Gartner and Vesper (1994) who reasoned that inviting an outsider into the class can be more of a distraction for educator-learners connection. They suggest students can use excellent books, articles and magazines that cover successful entrepreneurs' story. On a similar note, some researchers have also pointed out that guest lecturers (Brown, 1999; Klandt & Volkmann, 2006) and case studies (Fayolle et al., 2006) can be helpful. Krueger (2007) discusses how entrepreneurship pedagogy transformed from the behavioural teacher-centred approach to learning-centred constructive approach, which adopts problem-based learning perspective. Consequently, writing business plan has been a basic task for action learning in EEPs (Honig, 2004; Johannisson, 1991; Kakouris, 2015; Pittaway & Cope, 2007; Rasmussen & Sørheim, 2006). However, some EE experts criticize this idea and believe that business plan approach is better to be taught in the business education programs rather than in EEPs (Gibb, 2005; Honig, 2004; Low & MacMillan, 1988).

According to EE scholars teaching entrepreneurship is rather a new method and not a new pedagogy; the method can be taught and learned, but the results are dependent on and influenced by participants which means they cannot be predicted (Foss et al., 2013; Neck & Greene, 2011). This has led to considerable debates on how effective EE is and the question "what makes EE effective" has been discussed in a literature (Kuehn, 2008). Researchers have scrutinized this issue from various dimensions. In any event, to evaluate the success of any type of EEP, one should return to the pre-determined goals of that EEP and evaluate the results with them to ascertain whether the programme has been successful.

In developing countries, EEPs have a strong presence and economic development is at the core of them. The objective of these course or programmes, which consists of the very basic contents, almost always includes trying to promote venture creation (Liñán, 2004). That is probably one of the reasons that some researchers (e.g., Sexton & Bowman, 1984) believe that EE is as an extension of entrepreneurship itself and because of that any definition of EE should be done with a look towards the latter. However, if the EE field is to be developed, it is important to come up with some theoretical foundation to use as the basis. For this, intention models are good points to start; there is almost a consensus over the necessity of intention as an important prerequisite for becoming an entrepreneur, as well as adapting certain behaviours after the start-up phase (Liñán, 2004).

On the other hand, Liñán (2004) points out that the whole set of education and training activities attempt to instil some of the elements that affect that intention, such as entrepreneurial knowledge, desirability of the entrepreneurial activity, or its feasibility, to elevate EI to entrepreneurial behaviours. In addition, as Segal, Borgia and Schoenfeld (2005) state, these programmes highlight the benefits of entrepreneurship and encourage careful risk taking. Therefore, educators' role would be established comprehensibly. According to Fayolle (2003) instructors should focus on creating and increasing participants' EI. The transformation of this intention into practice however, depends on a number of different factors (opportunities, resources, environment and etc.) which are out of the hands of the educators (Liñán, 2004). Kuehn (2008) states: "If entrepreneurial intentions precede entrepreneurial behaviour, then entrepreneurship educators should benefit from intentions-based research in entrepreneurship". If this indeed the case, EE should investigate what drives this EI (Maresch et al., 2016).

2.4.4 Entrepreneurship Education in non-business Programs

According to the Association to Advance Collegiate Schools of Business (AACSB) Entrepreneurialism is one of the major forces that are shaping the environment of business education (Katz, 2008; Porter & McKibbin, 1988) and EE, which is a means to enhance students' entrepreneurial competencies, can potentially help them grasp entrepreneurial opportunities (Maresch et al., 2016). Jones (2010) suggests that EE is shaping as a ubiquitous form of education. The natural consequence of this transformation is that it will fall across the boundaries of subject disciplines and faculties (Jones & Jones, 2014). Traditionally, the historic roots of EE are in business schools, however recently the movement has started to shift beyond these roots significantly, although it is still in early stages (Roberts, Hoy, Katz, & Neck, 2014). These changes in the field mark the defining characteristics of EE in the new era, where entrepreneurship is no longer the exclusive field of business majors.

The central component of EE in disciplines other than business is still what business schools formulated, however, with rising acceptance of EE it is now expanding beyond business schools. Some external pressures that legitimize the field of entrepreneurship at universities to evolve from "lone wolf" to be embraced by other faculties are enumerated by Katz, Roberts, Strom, and Freilich (2014), including recognition that self-employment is the means of achieving career goals for many graduates, economic contributions of entrepreneurship by job creation, and government incentives for commercializing ideas that were developed in universities (Roberts et al., 2014). New niche fields are being formed while customized research and theory bases applicable to them are being developed as well (Katz, 2008). More and more programmes are being designed to offer EE to non-business students (Brand et al., 2007; Cockx et al., 2000; Kuratko, 2003; Standish-Kuon & Rice, 2002).

Katz et al. (2014) introduced the term 'Cross Campus Entrepreneurship Education (CCEE)' and defined it as the process of instilling "Entrepreneurship Skills, Knowledge and Abilities" in non-business students in order to promote entrepreneurial behaviour among them (Roberts, et al., 2014). Scholars highlight the need and importance of EE for non-Business students, who have an idea but lack the knowledge and skills to develop it into a business (Hynes, 1996; Jones & Jones, 2014; Teixeira & Forte, 2009). Carey and Naudin (2006) highlight the importance of EE for students who will join the creative industries after graduation and emphasise that it should be inserted within their curricula (Jones & Jones, 2014). Recent studies to a great extent, exhibit the crucial role of industry in curriculum development for non-business students (see, e.g., Kucel et al., 2016; Plewa, Galán-Muros, & Davey, 2015).

The expansion of EE to non-business disciplines and students appear to be reasonable. Brand et al. (2007) argue that there are many reasons explaining the high potential of non-business students as target audiences of entrepreneurship programmes. First, the majority of students in higher learning are from non-business majors. Second, non-business students possess characteristics and skills that business students which can improve entrepreneurship; one major example is the domain specific knowledge that non-business students acquire and is of high importance in identifying business opportunities (Shane, 2000). Third, the lack of awareness of business start-ups and their potential as career choices is another reason that heightens the value of EE for non-business students (Hynes, 1996).

Åstebro, Bazzazian and Braguinsky (2012) assert that students from science and engineering in particular are capable of developing innovative ideas into high-quality companies that ultimately enhance job growth (Kirchhoff, 1994; Maresch et al., 2016). Graduates of science and engineering disciplines have achieved practical knowledge

and expertise which potentially can solve real world problems of their societies, highlighting the importance of EE for students of these disciplines (Maresch et al., 2016). Many scholars have addressed the vitality of enhancement and consolidation of this human capital basis for encouraging graduate self-employment and in particular technology-based entrepreneurship; the need is particularly visible in regions that have been struck by economic (Fink et al., 2013; Harms, Wdowiak & Schwarz, 2009; Heitor et al., 2014). However, to infuse entrepreneurial skills among non-business students, EE should be more specific and discipline-based (Jungnickel, Kelley, Hammer, Haines & Marlowe, 2009). The need for contextualisation of EE in non-business disciplines has been underlined by a number of authors (Refai, Klapper, & Thompson, 2015; Welter, 2011).

Many initiatives have been taken to address this need develop entrepreneurship programmes in non-business disciplines. According to Roberts et al. (2014), pioneers of EE like Karl Vesper and Robert Brockhause linked business schools with engineering ones, but in arts, EEs started independently from business schools and made a connection with them years later (Katz et al., 2014). In one initiative, entitled the Coleman Program, the institutions that participated were required to designate non-business faculty members to make a commitment on incorporating entrepreneurship into their fields. In 2013, there were 60 new faculties committed to infuse entrepreneurship in their non-business programmes such as Engineering, Dance, Sciences, Computer Science, IT courses, Literature, Graphic Design, Psychology and Chemistry (Roberts et al., 2014). Moreover, there are a number of other famous universities that provide specific field-based EE for non-business students, e.g. Massachusetts Institute of Technology and Stanford University that offer standard academic curricula for engineering and science students (Karim, 2016), Colorado and

Iowa universities, which have formal collaborative programs in entrepreneurship between the business and engineering schools and Oregon, Minnesota, Maryland and Western New England College that have established centres for law and entrepreneurship (Katz, 2008).

Having gone through the literature, there are number of studies on/in EE in non-business disciplines. Refai and Klapper (2016) and Jungnickel et al. (2009) investigated the state of the art of EE in pharmacy education, Brizek and Poorani (2006) suggested a need for EE in hospitality and tourism programmes, Penaluna and Penaluna (2009) and Roberts (2013) studied the impact of EE on Art and Design students, Souitaris et al. (2007) conducted the similar study on science and engineering students. They argue that business insight must be integrated in curriculum design in non-business faculties with the aim to develop essential skills needed for developing and enhancing creativity (Jones & Jones, 2014; Roberts et al., 2014). Despite these attempts, the literature on impacts and issues of effective delivery of EE in other disciplines is limited. It is probably a daily challenge and work in progress for many entrepreneurship educators to figure whether, how and when to fit in even though it's possible and would enhance moral legitimacy of entrepreneurship (Jones & Jones, 2014; Katz, 2008).

Scholars believe EE to be relatively well-established field in most business and management faculties, but the feeling that entrepreneurship is still more *inserted* than integrated into undergraduate curricula is still present (Hannon, 2006; Henry & Treanor, 2010; Matlay, 2009). Brand et al. (2007) categorizes EE into three stages when it comes to teaching for non-business students; first, teaching opportunity recognition, second, teaching them how to prepare for exploiting the opportunities, and third, teaching them how to exploit opportunities. According to Brand et al. (2007), teaching opportunity recognition requires trainings within which the students learn to

link their prior knowledge and experience to the new information so that they truly become capable of identifying new opportunities. Despite being labelled as intrinsic by some authors (e.g. Casson, 1982), to some extent this skill can be developed in an individual. One example demonstrated by Lumpkin, Hills and Shrader (2004), Lucas and Cooper (2004) and van der Veen and Wakkee (2004), is that alertness, much like creativity, can be improved through brainstorming trainings and mind-mapping related to business programmes (Brand et al., 2007).

Delivery of EE varies in terms of approach among academics, with some good practices getting recognition and being recommended (e.g. Fayolle, 2013; Gedeon, 2014; Klapper & Refai, 2015; Refai et al., 2015). Yet, when discussing effectiveness, these approaches have not been clearly investigated (Rideout & Gray, 2013), and best-working approaches are still unknown (Klapper & Neergaard, 2012; Refai & Klapper, 2016). For instance, in teaching engineering entrepreneurship, a common approach is to deliver the course as part of/or integrated into their curricula (Fredholm et. el., 2002; Lumsdaine & Binks, 2003). A combination of various approaches have been applied so far, including courses, guest lectures, case studies, networking opportunities, internships, student entrepreneurial projects, providing resources to start a business and business competition (Luryi et. el., 2007; Standish-Kuon & Rice, 2002). According to Kriewall and Mekemson (2010) one important element to consider is the formation of strategic alliances beyond university to include alumni and local businesses that are capable of contributing to entrepreneurial engineering education; one example is the opportunity to see entrepreneurship in action through the interaction between students and these entrepreneurial companies and alumni. Another possibility to consider is collaboration between universities to identify best practices in EEPs (Karim, 2016).

Apart from effective delivery methods that would help EEPs to achieve the pre-defined objectives, Kuratko (2005) assert that there is a need for leadership in EE as well. According to him, "intellectual and programmatic leadership" in EE can help niche entrepreneurship programs across campuses to expand more while becoming more morally and cognitively legitimate in their own universities or institutions. This kind of leadership would ultimately raise the numbers and quality of these niche entrepreneurship programmes to maybe even faster and smoother pace than their business school-based counterparts. However, Morris, Kuratko, and Pryor (2014) point out to the bureaucratic nature of colleges and universities where change is a slow process. Although acceptance may come with interdisciplinary research on EE and entrepreneurship, most universities still support specialization approach as their incentive system (Lazear, 2004; Leahy, 2007; Roberts et al., 2014).

2.4.5 Sport Entrepreneurship Education (SEE)

The progress and expansion of sport industry on one hand and the critical role of entrepreneurship in economic development and job creation in different industries on the other hand, draw the emphasis towards the increasing importance of SE. Moreover, development of sport industry along with social, economic and technological changes of recent decades have resulted in creation of new customer expectations as well as endless opportunities in this big industry. Consequently there is greater demand and burden on businesses and service providers leading to one particular outcome of sport-related employers seeking out entrepreneurial abilities and good business, technical and personal skills in prospective employees. One way to resolve this issue is by producing more sport entrepreneurs, especially through EE that provides effective support and training to nascent entrepreneurs in the field of sport to enable future businesses flourish (Jones & Jones, 2014).

However, the significant growth of sport development and management that has been reported in recent years (Parkhouse & Pitts, 2005), the number of graduate entrepreneurs has been far fewer than the potential of sport industry suggests. In the literature there is very limited attention towards EE within sport (Jones & Jones, 2014). Ball (2005) reports less provision for entrepreneurship studies in sport. As part of sport education reform must consider incorporation of innovativeness and EE (Ge, 2011).

SEE in many regards is similar to EE; it is the kind of education that provides students with the skills to recognize opportunity in the sport industry, and further enables them to develop sport ventures or contribute to the development of existing organizations. Another focus of SEE is to encourage students to apply their acquired skills to various contexts in sport, including new or existing ventures, charities, NGOs, the public sector, and social enterprises (Nová, 2015). However, the literature reflects a significant lack of research in sport entrepreneurship, education and pedagogy (Light & Dixon, 2007). Although many researchers (see, e.g., Chalip, 2006; Frisby, 2005; Light & Dixon, 2007; Pastore, 2003) have pointed to the need for continual adjustments and refinement of sport management by the educators of the field and improvement of their practice by taking clues from development in other fields, the need for more work and room for further exploration is significant.

One of the important aspects of EEP in any discipline is the topics and delivery methods that educators should use. According to Borges (2010), the responsibility of preparing students to enter the ever changing and evolving sports industry has been laid upon instructors of sport management, as they have to ensure the curriculums developed are effective enough to prepare students for the challenging industry of sports. He takes the discussion a step further and points out that many of the sport entrepreneurship instructors do not have self-employment experience or employment in

large sports corporations. So the need for thorough examination of content and skills they offer is extreme (Borges, 2010). The reason behind this lies in the standards of EE that are issued by respected authorities of the fields and enable sport management educators to select subjects and activities in line with these standards and ultimately nurture the entrepreneurial spirit in their respective sport management programs (Nová, 2015).

Dana (2001) explains, for training programs to reach to their full success potential, they must be relevant to the host environment. Extending one program's success in one environment to another, and expecting the same effects would be a fallacy. Hence, it seems that in the process of designing SEE, cultural and situational factors need to be taken into account (Nová, 2015). The other important feature of SEE is the potential the course offers to enhance critical thinking of the participants (Bolstad & Hipkins, 2005; Skinner & Gilbert, 2007). Apart from the importance of contextual factors, experts also suggest that even if personal knowledge or being familiar with an entrepreneur has initially inspired students to pursue the field, they would still prefer customized and relevant material in their course work (Davis & Sumara, 2003; Jones & Jones, 2014; Light & Dixon, 2007; Varella, Thompson, & Rosh, 1991).

Furthermore, Borges (2010) attempted to do a comparison between sport entrepreneurship instructors and practicing entrepreneurs in what they regard as important skills to teach student to enable their success in running sport-oriented businesses. This comparison is of great value for students as well as educators to evaluate the current material taught in sport entrepreneurship courses. As one of this research's result, Borges found that larger percentage of sport management and entrepreneurship instructors, value digital skills and strategic management more than sport entrepreneurs do. Instead, sport entrepreneurs give more weight to financial

management topic rather than sport entrepreneurship instructors. Humphreys and Maxcy (2007) examined the value of sport economics in sport management curricula and reported that this field has received small attention because of two possible reasons; either sport faculties are not qualified in this regard or they are indifferent about the importance of this topic. Since entrepreneurship, like economics, is a relatively new area in sport management programs, similar prediction can be made to justify the indifferent approach toward sport entrepreneurship courses.

The other issue in providing SEE is the extent of provision. According to Nová (2015), EE in sport programs would be best addressed at programme level, however that is not always possible and a second option, *i.e.* embedded EE subject material throughout the sport management programme is more realistic. Another major issue in providing SEE is that it needs the support of top management (Ansari & Husin, 2015). If the general atmosphere of a sport faculty does not support and promote entrepreneurial mind-set, the long term success of SEE becomes difficult and unlikely.

So far no quantitative and experimental research has been conducted to study the effects of a SEE programme or a specific method for teaching entrepreneurship to sport students. In one of the few attempts done to study sport entrepreneurship Borgese (2007) investigated business graduated to see if EE could produce sport entrepreneurs. Although the result of his investigation was not statistically significant, it showed that sport entrepreneurs could be successfully educated to create viable sports-related firms. He identified that in order to become a successful entrepreneur in the sport industry, the following content is necessary to learn: 'entrepreneurial processes, traits and behaviours, business foundations, communications and interpersonal skills, digital skills, economics, information management and operations management' (Jones & Jones, 2014). Further, Borgese (2010) examined the suggested content for an EEP from

educators' perspective. He reported that the most significant contents for these types of EE include communication and interpersonal skills, financial management, marketing management and business foundations (Jones & Jones, 2014).

In another attempt, Holmström, Lindberg and Jansson (2015) conducted a research and investigated the change in the students' attitude towards entrepreneurship before and after a sport psychology course that included some entrepreneurship concepts embedded in its design. Results show the self-employment desire of students reduced marginally. However, the authors report that the course design did influence subjective perception of students of their ability in idea creation and commercialization significantly.

In general, despite what was mentioned on production of graduate entrepreneurs not being the sole objective of EE, educators, university authorities and researchers still need to measure the impact of EEPs. Since according to behavioural psychologists, intention is the best predictor of behaviour (Ajzen, 1991, 2002; Ajzen & Fishbein, 1977; García-Rodríguez, Gil-Soto, Ruiz-Rosa, & Sene, 2015; Liñán & Chen, 2009) understanding the influencing factors behind students' intentions towards starting a business is an essential step in developing effective programmes and policies to boost entrepreneurial behaviours. Therefore and in line with the high regard paid to entrepreneurship in today's society (Miller, Bell, Palmer, & Gonzalez, 2009), the determining factors of EI need to be investigated as a critical issue in entrepreneurship research, and with even more importance, in EE (do Paço, Ferreira, Raposo, Rodrigues, & Dinis, 2015).

2.5 Entrepreneurial Intentions

It is difficult to measure planned behaviours that are infrequent, hard to observe and in many cases include unpredictable time lags (Bird, 1988; Katz & Gartner, 1988;

Maresch et al., 2016; Souitaris et al., 2007); that is why behavioural psychologists and researchers try to predict those particular planned behaviours. Behavioural intentions, among a wide spectrum of behaviours, have been recognized to be the most immediate predictor of actual behaviour (Ajzen, 1991; Bagozzi, Baumgartner, & Yi, 1989; Schlaegel & Koenig, 2014). Having considered entrepreneurship as a process (Bygrave, 1989; Moroz & Hindle, 2012), which involves prior thinking, opportunity recognition, cognitive planning for starting and developing a venture, it is characterized as a planned, deliberate and actual behaviour (Autio, Keeley, Klofsten, & Ulfstedt, 1997; Bird, 1988; Gielnik et al., 2014; Lortie & Castogiovanni, 2015; Tkachev & Kolvereid, 1999); hence, it can be predicted by a type of behavioural intention, known as entrepreneurial intention (Shapero, 1984; Shapero & Sokol, 1982). This link between EI and entrepreneurial behaviour has been confirmed through two comprehensive meta-analysis conducted by Sheeran (2002), and Schlaegel and Koenig (2014).

It is important for entrepreneurs, students and entrepreneurship educators and trainers to know and make benefit from a better understanding of the motivations and intentions towards self-employment. According to Krueger et al. (2000), understanding intentions provides a means to understand its relevant phenomena, such as: what makes an individual prefer entrepreneurship over wage-employment, or elements that trigger opportunity discovery and even what it takes for a venture to ultimately become a reality. That is why EI has become an energetic field in entrepreneurship research (Fayolle & Liñán, 2014).

EI has been defined by several scholars; Crant (1996) defines it as one's desire to own his business (Bae et al., 2014), later Krueger et al. (2000) added 'the intention of starting a business' to that definition. However, one of the most popular and frequently used definition of EI was provided by Thompson (2009, p.676) as the "self-

acknowledged conviction by a person that they intend to set up a new business venture and consciously plan to do so at some point in the future". Expectedly, as Maresch et al. (2016) also emphasise on the importance of EI drivers for learners, educators and policymakers, and overall, what could affect the EIs of individuals have been investigated from various angles in the literature. For instance, scholars such as Bird (1988) and Lee and Wong (2004) discuss about the role of values, needs, desires, habits and beliefs on EI. Additionally, according to Liñán and Chen (2009), some other scholars take the impact of situational factors, like time constraints, social pressure and tasks difficulty, on EI into consideration (see, e.g., Ajzen, 1987; Boyd & Vozikis, 1994; DeClercq, Benson, & Martin, 2012; Tubbs & Ekeberg, 1991).

Nevertheless, what can be seen in the evolution of EI field is the successful integration of theories from another field into entrepreneurship studies. In this particular example of integration, Fayolle and Liñán (2014) explain, the theories being shifted towards entrepreneurship come from the field of social psychology, specifically, cognitive psychology. Scheinberg and MacMillan (1988) investigated the major motivations behind individuals' self-employment in 11 countries, and classified them to 6 different categories, namely "need for approval, perceived instrumentality of wealth, degree of communitarianism, need for personal development, need for independence and need for escape" (Kolvereid, 1996a, p.23). Later, Cooper, Woo, and Dunkelberg (1989) categorised other researchers' findings on individuals' motivations towards entrepreneurial activities into three elements of challenge, wealth and autonomy. In general, as Krueger et al. (2000) point out, a better prediction of behaviour, in comparison to those derived from individual or situational variables can be obtained from intentions models.

2.5.1 Intentions-based Models in Entrepreneurship

Intentions-based models offer practical understanding to any planned behaviour (Krueger et al., 2000). Entrepreneurial behaviour, as mentioned earlier, is an example of such behaviours; one that is intentional and a result of cognitive planning. Having gone through the literature, there are three intentions-based models that could help to understand and predict the development of EIs of entrepreneurs or those who intend to be self-employed, namely 1) Entrepreneurial event model (EEM) introduced by Shapero and Sokol (1982), 2) Bird's (1988) model of implementing entrepreneurial ideas, and 3) Ajzen's (1991) Theory of Planned Behaviour (TPB) (Fayolle et al., 2006; Fayolle & Liñán, 2014). In general, the applicability of TPB and EEM to the field of entrepreneurship has been supported by empirical evidence (Krueger & Brazeal, 1994; Krueger et al., 2000), however, according to Shook, Priem, and McGee (2003), Bird's model still needs to be validated by entrepreneurship literature (Fayolle, & Liñán, 2014; Kolvereid & Isaksen, 2012). In the following sections, these models will be briefly explained.

2.5.1.1 Shapero's (1982) Model of Entrepreneurial Event

Shapero and Sokol (1982) assert that human behaviour is guided by an inertia until that best moment arrives, in which the individual intends to look for the best entrepreneurial opportunity or pursuing a business idea. Shapero and Sokol call that interrupting moment *entrepreneurial event*, and explain that those moments are shaped by groupings of social variables that would occur because of three major reasons: 1) negative displacements (or negative pulls), such as being insulted or bored or even fired, midlife crisis, divorce and etc.; 2) positive pulls, like receiving investment proposition or business partnership, requests from customers; and 3) positive push, such as graduating from university, finishing military service, releasing from jail or so on.

They postulate that an entrepreneurial event may take place depending on perceived desirability (values) and perceived feasibility of the opportunity or idea. Shapero (1984) defines perceived desirability as the intra-personal and extra-personal attractiveness of starting a venture, and perceived feasibility as the degree of capability one feels towards starting a business.

Drawing on this argument, Krueger (1993) further developed Shapero's EEM and included another important variable called *propensity to act*. This variable describes why an individual who desires to pursue an idea or an opportunity, and thinks he/she is capable of doing it never becomes an entrepreneur; as he/she lacks the tendency to act on that thought (do Paço et al., 2015; García-Rodríguez et al., 2015; Krueger et al., 2000). Figure 2.2 illustrates the EEM.

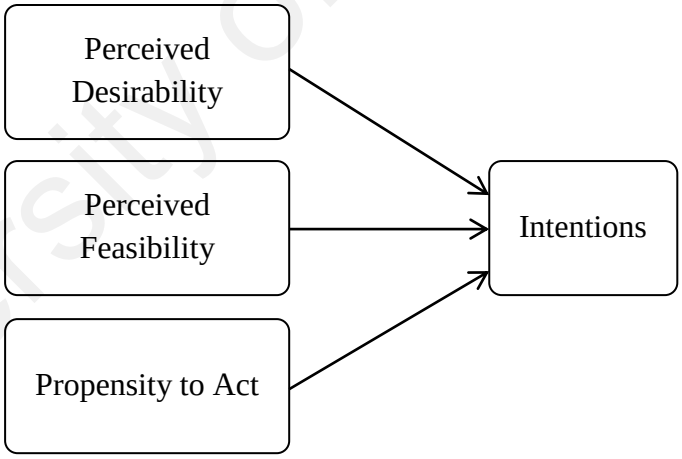

Figure 2.2: Shapero-Krueger Entrepreneurial Event Model (Iakovleva & Kolvereid, 2008)

In general, the EEM has been supported empirically. One such support came from Kruger (1993), who found that majority of the variance in EI can be explained by perceived feasibility, explaining most of the variances, and desirability (Shook et al., 2003). In addition to the important contribution of publications of Shapero's seminal

works to the field of EI (Shapero, 1984; Shapero & Sokol, 1982), they are of great importance from other aspects as well; they mark the beginning of the rapid growth of the literature on EI which continues to this day (Fayolle & Liñán, 2014).

2.5.1.2 Bird's (1988) Model of Implementing Entrepreneurial Ideas (IEI)

Not long after the introduction of EEM, the field of entrepreneurship saw more contributions from authors who began to recognise the importance of the intention approach (Bird, 1988). One influencing factor in this development (Fayolle & Liñán, 2014) was the shift in focus to a process view in entrepreneurship research (Gartner, 1985, 1989; Shaver & Scott, 1991) In her famous article, Bird (1988) explains that for every individual during the formation of EI personal history, and current personality and abilities on one hand, and social, political and economic context on the other hand, there is an interaction with intuitive as well rational thinking. She elaborates that intentions for starting a new venture can be the result of either rational, analytic, and cause-and-effect thinking processes or intuitive, holistic, and contextual thinking (Shook et al., 2003). Despite being highly cited, Bird's (1988) IEI model hasn't been empirically validated yet (Fayolle et al., 2006; Kolvereid & Isaksen, 2012; Shook et al., 2003). Figure 2.3 shows the Bird's (1988) contexts of intentionality which may lead to implementing entrepreneurial ideas:

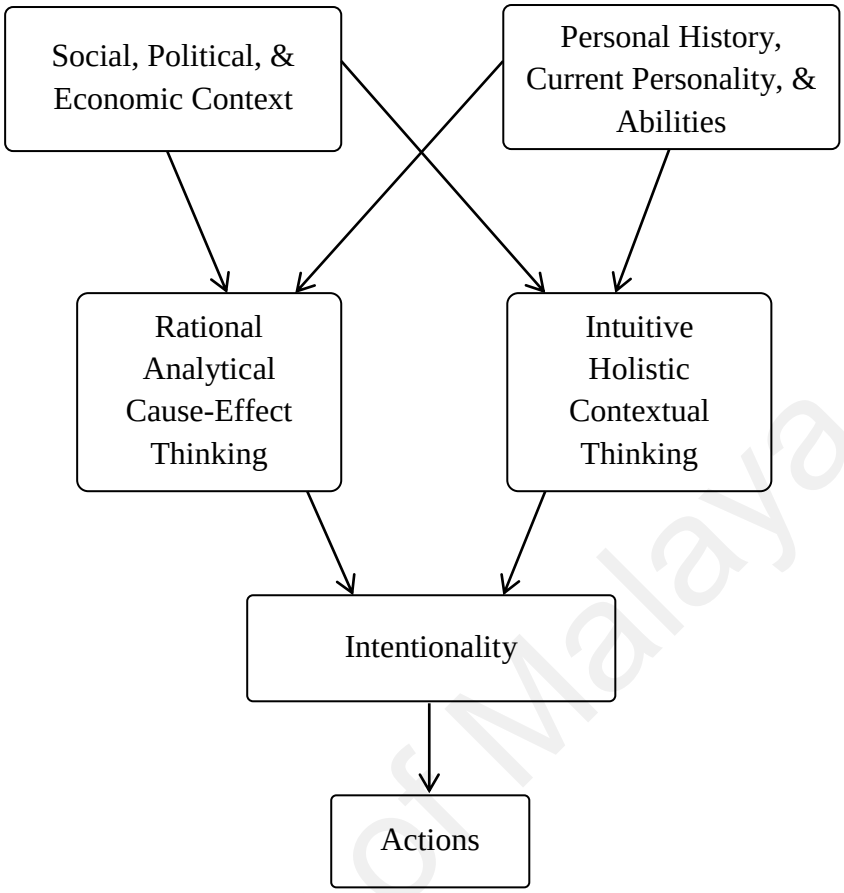

Figure 2.3: Implementing Entrepreneurial Ideas (IEI) Model (Bird, 1988)

Few years later, Boyd and Vozikis (1994) revised the IEI model and explained why in many cases EIs never turn to entrepreneurial actions; they argue that in order to evaluate the strength or weakness of intention-behaviour relationship in people, antecedent factors need to be incorporated to Bird's (1988) model. Therefore, they added the concept of self-efficacy to the Bird's (1988) IEI model and introduced new contexts of entrepreneurial intentionality (Figure 2.4). Albert Bandura (1994, p.71) describes the concept of self-efficacy as the beliefs people have of their own capabilities "to produce designated levels of performance that exercise influence over events that affect their lives". Boyd and Vozikis (1994) explain that individual's entrepreneurial self-efficacy, which may be affected by individual's previous career

experiences, social support and entrepreneurial role models, can affect the development of EIs (Kolvereid & Isaksen, 2012; Shook et al., 2003).

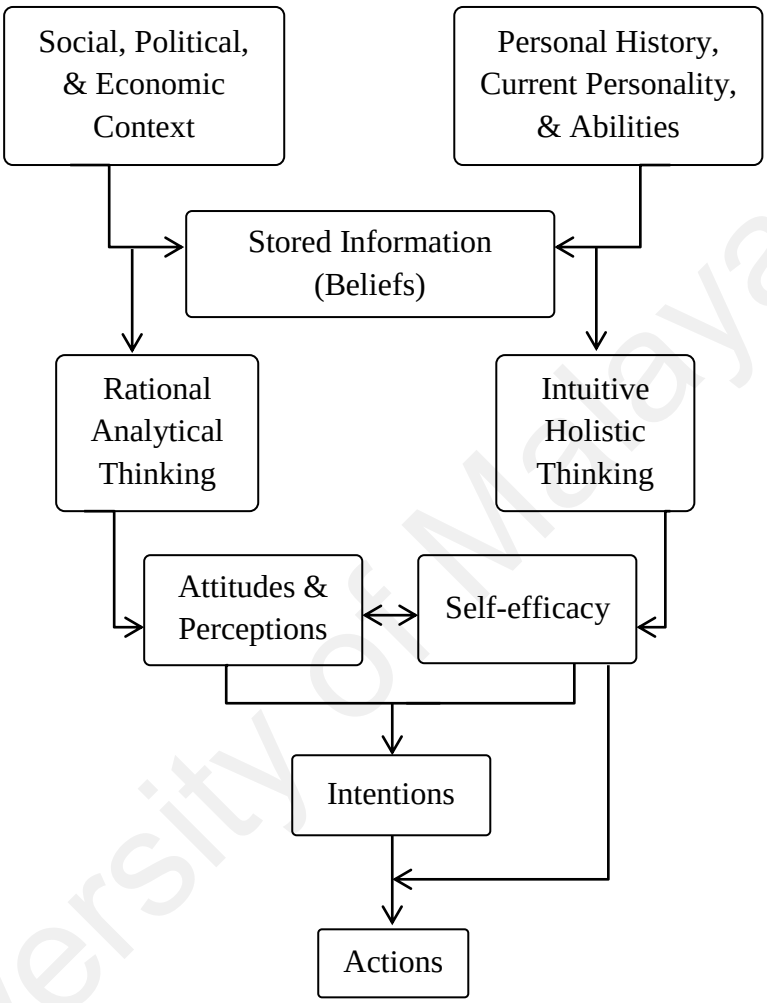

Figure 2.4: Revised Model of Bird's (1988) Contexts of Entrepreneurial Intentionality (Boyd & Vozikis, 1994)

Explaining the implication of including self-efficacy into their model, Boyd and Vozikis (1994) assert that self-efficacy improves individual's goal commitment and those with higher perception of self-efficacy tend to set more challenging goals and they are more likely to have stronger commitment to their goals. They take the discussion a step further and propose that people with high sense of self-efficacy and goal commitment, possess the stronger EIs, and this is the most probable situation in

which EIs turn into entrepreneurial actions. Boyd and Vozikis (1994) point to persistence as a factor that can enhance self-efficacy, since those who are more frequently engaged in task-related activities are more likely to improve the mastery experiences (Gist, 1987). And people with stronger beliefs of their capabilities will show more persistence in their efforts in overcoming challenges, additionally, people with low self-efficacy experience depression and stress which becomes and impairing factor in their functioning and levels of performance (Wood & Bandura, 1989).

2.5.1.3 Ajzen's (1991) Theory of Planned Behaviour (TPB)

In 1991, Icek Ajzen introduced a model in which he asserted that an individual's behaviour is predicted by his/her intentions toward that specific behaviour. Among all the theories and models in EIs, Ajzen's (1991) TPB is considered as probably the most influential intention-based model in the literature (Fayolle & Gailly, 2015; Fayolle, Liñán, & Moriano, 2014; van Gelderen et al., 2008; Gird & Bagraim, 2008; Kolvereid, 1996b; Krueger, 1993; Krueger et al., 2000; Liñán & Chen, 2009; Lortie & Castogiovanni, 2015; Moriano, Gorgievski, Laguna, Stephan, & Zarafshani, 2012; Souitaris et al., 2007; Tkachev & Kolvereid ,1999).

Ajzen's (1991) explains that human intentions are the best predictor of one's behaviours and depend on three conceptual factors, namely Attitude toward Behaviour (ATB), Subject Norms (SNs), and Perceived Behavioural Control (PBC) (Figure 2.5). Attitudes is described as a collection of someone's feeling and belief about an object; and the more positive feelings a person has toward an object, the more positive attitude he/she will have towards that (Bohner & Dickel, 2011; Zanna & Rempel, 1988). Ajzen (1991) describes SNs as the social factors which are related to the perceived social pressure to perform certain behaviour or not to do that. PBC refers to an individual's

perception of the ease or on the other hand the difficulty to perform a particular behaviour or action (Ajzen, 1991; Ajzen & Driver, 1992).

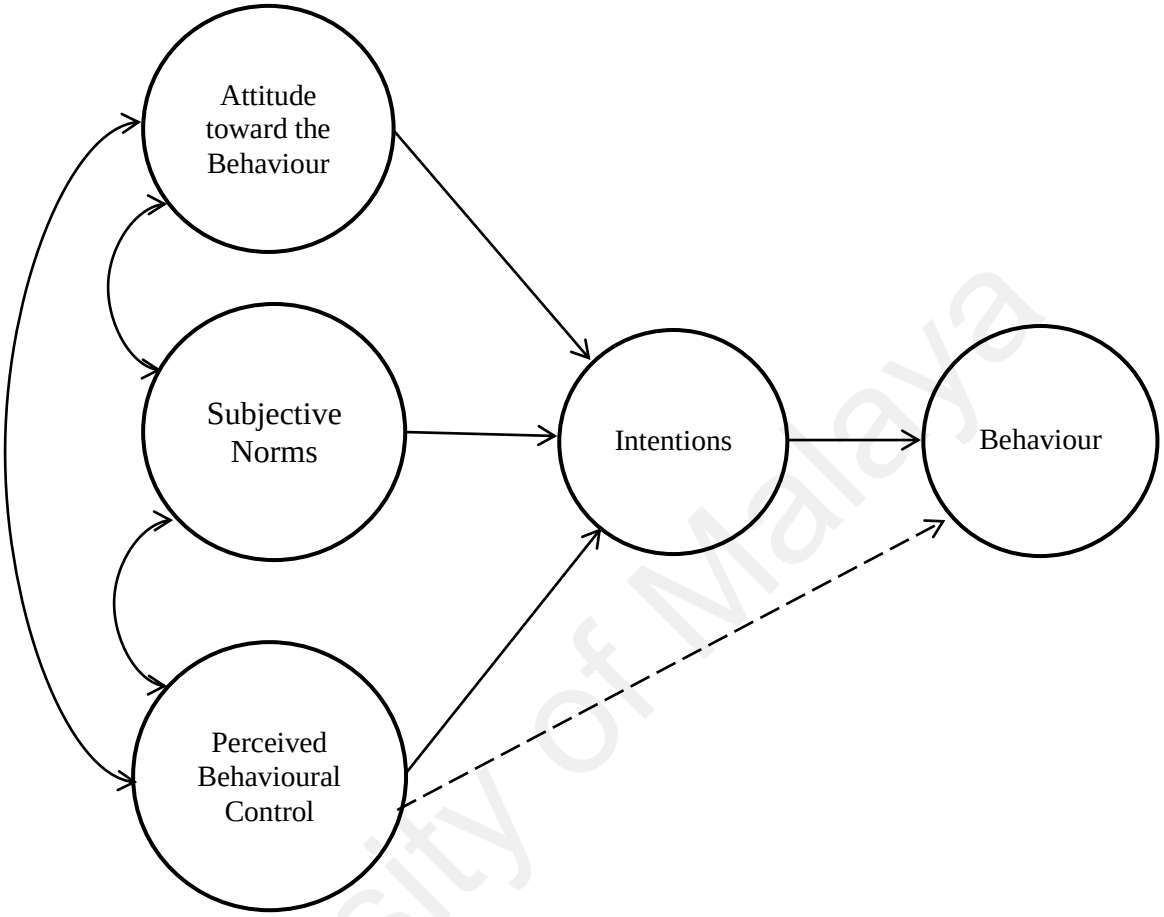

Figure 2.5: Theory of Planned Behaviour (Ajzen, 1991)

Ajzen's TPB (1991) is one of the most famous theories in explaining human behaviours and predicting the behavioural intentions, and it has been widely applied and studied in different disciplines and research contexts. This theory was introduced to the field of EI by Krueger and Carsrud (1993) for the first time (Liñán & Fayolle, 2015; Schlaegel & Koenig, 2014). They refer to Katz and Gartner's (1988) study on the emerging organizations and assert that since intentionality is an important characteristic of emerging ventures, exploring the pre-organisational phenomena and the decision to start an entrepreneurial venture sounds significant. They also explain that human intentions and consequently behaviours are indirectly affected by *exogenous influences*

(such as perceptions of resource availability or prior entrepreneurial experience) through their direct effect on attitudes (Ajzen, 1987; Bagozzi et al., 1989).

Entrepreneurship scholars have studied Ajzen's (1991) TPB in their fields of study for more than two decades. García-Rodríguez et al. (2015) state that in the context of entrepreneurship, ATB (or as Liñán and Chen (2009) call it attitude toward start-up) is associated with the extent to which someone has a positive or negative valuation of becoming an entrepreneur. This valuation, based on Ajzen's (1991) TPB, is linked to EI. On the opposite side, there is no consensus on the role of SNs on EI. Some studies found a significant relationship between SNs and EI (see, e.g., Kolvereid, 1996b; Kolvereid & Isaksen, 2006; Tkachev & Kolvereid, 1999), whereas some works, such as Autio et al. (2001), Krueger et al. (2000) and Liñán and Chen (2009), that didn't find any significant correlation between these constructs. However, expectation of a positive relation between SNs and EI, to the extent that the decision of becoming an entrepreneur integrates the opinions of "reference people", is reasonable (Ajzen 2001; García-Rodríguez et al., 2015). Moreover, EI experts believe the concept of PBC is very similar to what Bandura (1982) explained as self-efficacy. They assert that the higher the perception of ability to perform entrepreneurial activities, the higher the likelihood of EI and more chance to turn into entrepreneurial behaviour (García-Rodríguez et al., 2015; Krueger et al., 2000; Kolvereid & Isaksen, 2006).

As mentioned earlier, Ajzen's (1991) TPB is the most frequently used intentions-based model in the field of entrepreneurship. One of the major reasons is the social factors that Ajzen (1991) takes into account for understanding and predicting EIs in his coherent and generally applicable framework (Fayolle et al., 2014; Krueger et al., 2000). Another distinctive advantage of TPB (Ajzen, 1991) over other intentions-based models is the opportunity to measure the development of EI through EEPs. According

to entrepreneurship scholars this model, which has been repeatedly employed and validated in empirical and meta-analytical studies (Maresch et al., 2016; Schlaegel & Koenig, 2014), provides this opportunity for educators, instructional designers and decision makers to evaluate different EEPs, with different pedagogical approaches to find out which one could produce the best results in terms of increasing participants' EIs (Fayolle et al., 2006; Krueger & Carsrud, 1993); and Krueger et al. (2000, p.413) assert that "promoting EIs is thoroughly feasible".

2.5.2 Factors Affecting Entrepreneurial Intentions

The most probable question following basic discussions on the importance of entrepreneurship in today's world is how can we produce entrepreneurs? One of the important factors in increasing entrepreneurial behaviour among people that relates to this question is creating and increasing EI as explained along with its famous models in the previous section. The next important question is how EI can be increased in individuals. The answer to this question has been the subject of various studies by researchers in the field of entrepreneurship.

Recently, Liñán and Fayolle (2015) conducted a comprehensive bibliometrics analysis on EI publications, and classified them into six categories, namely 1) Core El Models, 2) Personal-level variables, 3) EE, 4) Context and institutions, 5) Entrepreneurial process, and 6) new research areas. Accordingly, Categories 2, 3 and 4, which are about factors that can potentially impact the EIs of individuals, highlight the importance of this topic for the researchers.

According to Liñán and Fayolle (2015), 'personal-level variables' is the largest category among EIs publications, which consists of articles that studied the impact of demographics or experience affect, personal traits and psychological variables on people's EIs. For instance, Segal et al.'s (2005) study is one of the most impactful

works in this topic that investigated the role of psychological variables, in particular *perception of risk*, on EIs. Segal and colleagues report that tolerance for risk and the perception of feasibility and desirability predict EIs significantly. Nabi and Liñán (2013) also studied the relationship between risk-perception and EI and concluded that entrepreneurial risk perception affects EIs indirectly through its impact on entrepreneurial motivation. Some other studies were conducted to explore the role of background variables, such as *prior family exposure to entrepreneurship*, on EIs (see, e.g., Carr & Sequeira, 2007; Gird & Bagraim, 2008). In addition, the positive influence of *locus of control* by Zellweger, Sieger, and Halter (2011) and *innovativeness* by Ahmed et al. (2011) have also been reported.

Moreover, among personal variables that affect individual's EIs, the *gender differences* is probably the most frequent single research topic (Liñán & Fayolle, 2015). Several studies report that males showed higher EIs (Díaz-García & Jiménez-Moreno, 2010; do Paço et al., 2015; Espíritu-Olmos & Sastre-Castillo, 2015; Sánchez-Escobedo, Díaz-Casero, Hernández-Mogollón, & Postigo-Jiménez, 2011; Strobl et al., 2012). Many scholars have tried to explain this gap, especially among university students (Bagheri & Pihie, 2014; DeClercq et al., 2012; Gupta, Turban, Wastiand, & Sikdar, 2009; Gupta, Turban, & Bhawe, 2008; Krueger & Kickul, 2006; Sweida & Reichard, 2013; Wilson, Kickul, & Marlino, 2007); the stereotype that associates entrepreneurship with a male gender, and social and cultural factors that form the entrepreneurial desirability and feasibility, have been reported as the main reasons for this gap. Additionally, Shinnar, Giacomin, and Janssen (2012) state that women, in general, tend to perceive different barriers to entrepreneurship than men. However, Liñán and Fayolle (2015) assert that there is not enough work on this topic (i.e. perceived barriers) and that the current literature includes only three findings, including

lack of financial capital, lack of entrepreneurial skills and operational problems, which indicates to a notable underdevelopment in EI publications in this area.

Institutional variables are the other factors that can affect EIs (Liñán & Fayolle, 2015). Institutions, which are defined as "the rules of the game in a society" (North, 1990), can increase individual's EI if they are in the favour of entrepreneurship (Liñán, Urbano, & Guerrero, 2011b). There are several studies that explored different types of institutional variables in EI literature, including *universities* (see, e.g., Turker & Selcuk, 2009), *regional context* (see, e.g., Jaén & Liñán, 2013; Kibler, 2013; Liñán et al., 2011b), legal policies and regulative system (see, e.g., Engle, Schlaegel, & Dimitriadi, 2011) and *social networks* (see, e.g., Zafar, Yasin, & Ijaz, 2012). Among contextual factors, countries' economic situation was also reported as another influencing factor for EI; as Singer, Amorós, and Moska (2015) point out, the highest EIs are among people in factor driven economies, and conversely, the lowest belongs to the innovation-driven economies. It means in countries with limited options for creating income, starting an entrepreneurial venture is dominant. Furthermore, Lortie and Castogiovanni (2015) reviewed the literature and provided a comprehensive list of factors that can affect EIs, based on TPB (Figure 2.6). As can be seen in Figure 2.6, education is considered as one of the factors that can increase EIs by affecting all the constructs of TPB.

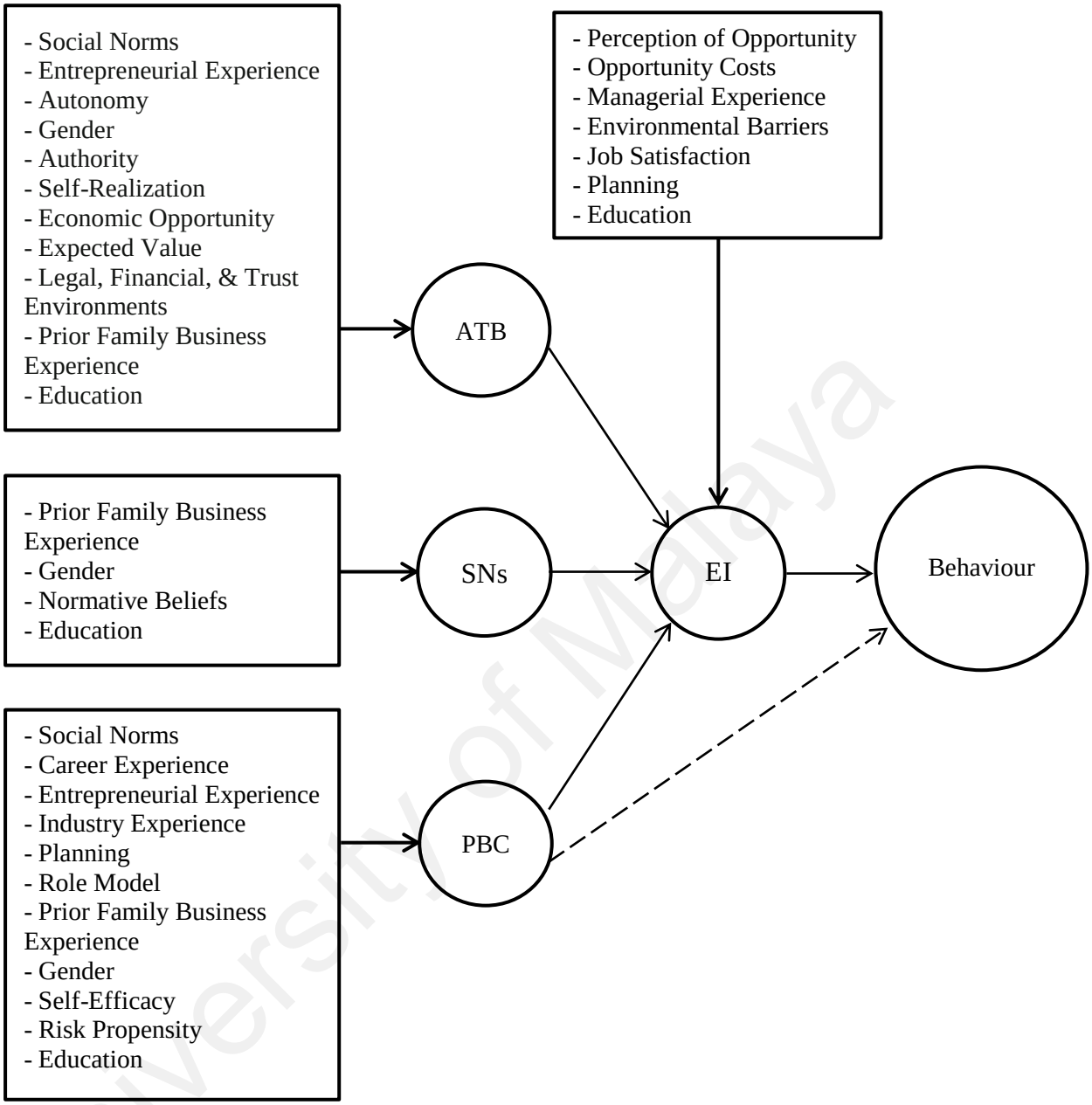

Figure 2.6: Factors Affecting EIs based on TPB, adapted from Lortie and Castogiovanni (2015)

2.5.3 Entrepreneurship Education and Entrepreneurial Intentions

As pointed out in the previous section, EE is considered as a strong antecedent of EI (Maresch et al., 2016). According to Bae et al. (2014) there are two theoretical concepts developed by EI scholars that support the association between EE and EI: 1) human capital theory (Becker, 1964; Davidsson & Honig, 2003); and 2) entrepreneurial self-

efficacy (Boyd & Vozikis, 1994; Chen et al., 1998). Numerous scholars have posited that entrepreneurial self-efficacy is one of the strong triggers of EI (Bae et al., 2014; DeNoble et al., 1999; Douglas, 2013; Krueger et al., 2000; Segal et al., 2007). The knowledge and skills that one acquires through education or job training, or through different types of experience, shape the human capital and also increase individual's entrepreneurial self-efficacy (Bae et al., 2014; do Paço et al., 2015; Dutta, Li, & Merenda, 2011; Wilson et al., 2007; Zhao, Seibert, & Hills, 2005). According to Bandura (1982, 1986), EE could improve entrepreneurial self-efficacy by improving its determinants, including 1) enactive mastery, 2) vicarious experience, 3) verbal persuasion, and 4) emotional arousal. EE, by identifying vocations in students, promoting and encouraging entrepreneurial mind-sets and skills, and increasing their EIs plays an important role in the development of entrepreneurial citizens (Martin et al., 2013; Oosterbeek et al., 2010).

Having gone through the literature it can be seen that the majority of publications studied the role of EE in the formation of EI is based on Ajzen's (1991) TPB (Krueger & Carsrud, 1993; Schlaegel & Koenig, 2014). However, these works yielded mixed results (Bae et al., 2014). EI literature shows that TPB and EE have been studied in various ways (Martin et al., 2013). According to Maresch et al. (2016), initially, entrepreneurship researchers took education as merely the context where they evaluated TPB constructs and EI (see, e.g., Autio et al., 2001; Liñán, 2004; Lüthje & Franke, 2003). Later, entrepreneurship scholars tried to investigate the direct role of EE on EI (see, e.g., Fayolle et al., 2006; Pittaway & Cope, 2007; Souitaris et al., 2007). However, in addition to these two categories, there are two other groups of EI research that study the mediating and moderating role of EE on EI based on the constructs in

Ajzen's (1991) TPB (Ho, Low, & Wong, 2014; Maresch et al., 2016; Rauch & Hulsink, 2015).

Having reviewed the EI literature, the general findings reflect the importance of EE (Maresch et al., 2016). Other than three studies published by Oosterbeek et al. (2010), von Graevenitz et al. (2010), and Fayolle and Gailly (2015), the rest of the studies in the field of EE have reported the improvement of EI among individuals who had participated in an EEP (see, e.g., Chrisman, 1997; Clark, Davis & Harnish, 1984; Fayolle et al., 2006; Kolvereid & Moen, 1997; Kourilsky & Esfandiari, 1997; Lima et al., 2015; Liñán, Rodríguez-Cohard, & Rueda-Cantuche, 2011a; Menzies & Paradi, 2003; Pihie, Akmaliah, & Bagheri, 2009; Singh & Verma, 2010; Rauch & Hulsink, 2015; Souitaris et al., 2007; Wurthmann, 2014; Zhang, Duysters, & Cloodt, 2014).

Although the number of studies reporting the positive influence of EE on EI is significantly large, it is still important to know why those three studies reported otherwise. Needless to emphasise, it is difficult to find the exact cause, since there are a large number of variables involved in the social science experiments. Nevertheless, the common, and mandatory, attribute of those studies was the EE type. Oosterbeek et al. (2010) argue that losing over-optimism about entrepreneurship and rejecting entrepreneurship as career option after finishing the program can be the reason behind the results of these studies. Olomi and Sinyamule (2009) offer a similar explanation by speculating that a more realistic view of entrepreneurship that is gained post-program may discourage participants from becoming entrepreneurs. In addition, Fayolle and Gailly (2015) explain that the insignificant impact of EE on participants' EIs in their study could be due to the shortness of the course, which was delivered in three days. Moreover, the relative heterogeneity of the participants, especially in their initial intentions and the prior exposure to entrepreneurship might be other reasons.

Overall, there are two important meta-analyses in the EE-EI relationship literature, conducted by Martin et al. (2013) and Bae et al. (2014). The major advantage of a meta-analysis is the more credible and accurate conclusion (Rosenthal & DiMatteo, 2002) that it provides, compared to single primary study or a narrative review, for a particular topic or area of research. Martin et al. (2013) meta-analysed 42 independent samples (N = 16,657) of publications studying EE-EI relationship that had employed human capital theory. Martin and colleagues identified a significant relationship between EE and entrepreneurship-related human capital and found higher levels of EI associated with EEPs. Moreover, Bae et al. (2014) conducted a meta-analysis on 73 publications (N = 37,285 individuals) studied EE impact on EIs and found a significant relationship between EE and EIs. Having considered the strong power of generalizability of meta-analysis results (Brown & Peterson, 1993), the positive impact of EE on EI is now accepted among entrepreneurship scholars. In their study, Bae and colleagues meta-analysed the moderating effect of some attributes of EEPs, such as the duration and the specificity of EE, on EI; they found no significant impact made by EEPs duration (whether delivered in semester format or workshop format) and type (whether it's a venture-creation EE or business plan preparation course). Moreover, Bae et al. (2014) found no significant moderating impact from individual student differences on EE - EI relationship.

As mentioned in previous sections, EE has been receiving growing attention from non-business disciplines. Therefore, evaluating EE impact on EI of non-business students has become an important topic for entrepreneurship researchers. Krueger et al. (2000) postulate that EE might affect non-business students' EIs stronger, compared to business students; as it is very likely that students of non-business disciplines have not considered self-employment, although they own particular expertise in their fields. In

one of the fundamental studies in the area of EE-EI in non-business disciplines, Souitaris et al. (2007) investigated the effect of EEPs on students of science and engineering programmes based on Ajzen's (1991) TPB. They found that EEP positively influenced EI, SNs and entrepreneurial attitudes of participants.

Similarly, Maresch et al. (2016) studied EE-EI relationship among science and engineering students and compared it with that of business students. They found a significant positive relationship between EE and EI for students of all programs. However, results showed the coefficient for the students of business studies was larger than others. In addition, Maresch and colleagues assessed the components of Ajzen's (1991) TPB and state that for students of all groups ATE and PBC were positively related to their EIs, although it was not significant for PBC-EI correlation. Interestingly, in contrary with general findings in the literature, Maresch et al. (2016) found that SNs were negatively related to students' EIs in science and engineering groups. Having considered the critical role of entrepreneurship in today's world and the increasing popularity of this phenomenon in the academia, and particularly among non-business students, the need for more research in the area becomes more apparent.

Many entrepreneurship scholars have emphasised on the usefulness of TPB (Ajzen, 1991) in EEPs, and pointed out the influence of its three constructs, i.e. ATE, SNs and PBC, on the effectiveness of EE (Gorman et al., 1997; Kuratko, 2005; Maresch et al., 2016; Rauch & Hulsink, 2015). In addition, taking EI as a measure of EEPs impact on the participants has the advantage of measuring the immediate effect of such programmes. However the adaptation of this theory and EI construct for studying individual's entrepreneurial behaviour has not been without criticism (Liñán et al., 2011). For instance, Katz (1990) states that in the context of entrepreneurship, the relationship between the intentions to be an entrepreneur and being one is weak.

Having considered variables like opportunity discovery (DeTienne & Chandler, 2004) or startup foundation (Souitaris et al., 2007) as two examples of real entrepreneurial behaviour, Maresch et al. (2016) highlight the lack of studies in this part of EE literature.

Furthermore, according to some researchers, starting an entrepreneurial venture is a complex behaviour, which is not always under the control of the would-be entrepreneurs completely (Autio et al., 2001; Brännback et al., 2007). In addition, despite the importance of EIs in the context of EE, some researchers argue that it may not be a valid measure to assess the quality, outcomes or significance of EEPs using participants' EIs (Bae et al., 2014; Mark, Donaldson, & Campbell, 2011; Scriven, 1991). Instead, different constructs such as entrepreneurial knowledge, startup skills and even real entrepreneurial behaviour or performance are suggested as alternative measures (Bae et al., 2014; Schlaegel & Koenig, 2014). More importantly, some of the prolific scholars of entrepreneurship field have recently asked for more experimental research in EE studies; in which the effect of the treatment (i.e. various course types, curriculum and methods of delivery) on experimental group (EEPs participants) and control group (students outside the EE sphere) is evaluated through a pre- and post-intervention (Fayolle & Gailly, 2015; Fayolle, & Liñán, 2014; Martin et al., 2013).

2.6 Summary

In this chapter a relevant literature that was needed to build the background for research problem and objectives was provided. First, the importance of graduate entrepreneurship was explained, and then the concept of sport entrepreneurship was provided. History of EE along with different types of EEPs was explained and a brief overview on EE in non-business programmes, including sport, was provided. Afterwards, the concept of EI, as the main quantitative objective of this study, was

elaborated and different intention-based models were explained. Eventually, the relationship between EE and EI was summarised from the literature.

CHAPTER 3: RESEARCH METHODS

3.1 Introduction

As explained in the first chapter the primary aim of this study was to design a standard and effective sport entrepreneurship course, through an educational experiment (see Section 1.5). To achieve this objective, a multidisciplinary research between the three fields of sport, entrepreneurship and education was needed. Although a one-best research approach doesn't exist, based on the research question(s) or the problem(s) the research is attempting to provide a solution for, researchers can decide the most suitable method (Skinner, Edwards, & Corbett, 2014). In this study, for designing a sport entrepreneurship course and answering the research questions (see Section 1.6), the educational design-based approach, which was the combination of Design-based Research (DBR) and an educational experiment, was employed; as Skinner et al. (2014) point out, in sport management discipline research is generally a combination of both basic and applied approach, rather than either one of them individually. The overview of the research approach is illustrated in Figure 3.1:

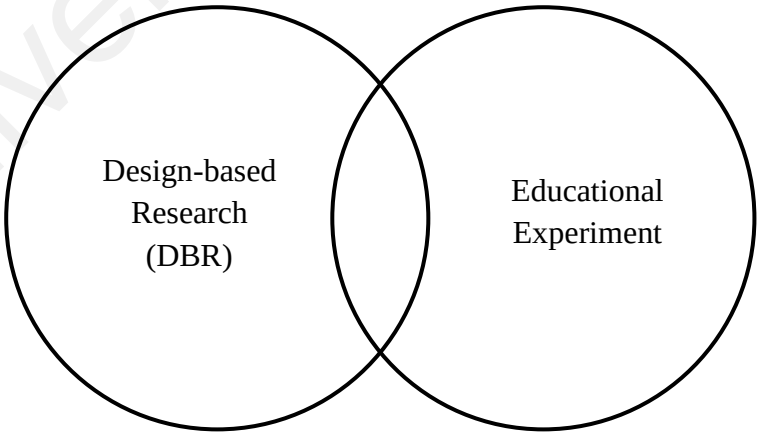

Figure 3.1: Overview of the Research Approach

This research was carried out in two phases; first, designing a sport entrepreneurship course and then conducting the completed design as the educational intervention. This chapter presents an overview of the methods used in this study, the reasons why they were used and the theoretical foundation of the design, which formed the intervention design of the research. Further, the study participants and data collection processes, in the design and the intervention phases, sample size and study measures are explained, and the statistical tests used to analyse pre- and post-intervention data are discussed.

3.2 Educational Design-based Research (EDBR)

As highlighted earlier in chapter one, producing entrepreneurial graduates is an important issue for university faculties, including sport, and this research was mainly carried out to contribute to solving this problem. Among all research methods, EDBR was the most suitable for designing such a course, as well as providing the opportunity of quantitatively analyzing the intervention results. In general, EDBR is a design-based study in the broad field of education. Therefore, to explain EDBR, it is better to start with DBR.

DBR is pragmatic, both in theory and practice, as it aims to solve real world problems and/or develop theories (Design-Based Research Collective, 2003; van den Akker, McKenney, & Nieveen, 2006; Wang & Hannafin, 2005). It is a relatively new methodological approach for undertaking experimental research that is conducted in a real-life setting (Barab, 2014). Initially, this method, or as Barab and Squire (2004) believe series of approaches, was introduced by Brown (1992) and Collins (1992) as 'design experiments'. Later, other researchers used different terms, such as *design research* (Reeves, Herrington, & Oliver, 2005) and *developmental research* (McKenney & van den Akker, 2005; van den Akker, 1999). DBR is defined as a

methodology that is both systematic and flexible, with the purpose of improving practices by iterative analysis, design, development and implementation, all done on a collaborative basis among researchers and practitioners in real-world settings, eventually resulting in design principles and theories that are contextually-sensitive (Wang & Hannafin, 2005).

From a practical point of view, a design-based researcher intends to provide a solution for real world problem(s), and by enriching and developing the knowledge in that particular field contributes to improving the human condition (Denyer, Tranfield, & van Aken, 2008). According to Barab (2014), DBR, unlike a 'cookbook', is not composed of certain fixed methods; rather it includes a collection of approaches that helps researchers to create effective solutions for real problems, while their outcome might consequently develop theoretical frameworks of the field. Moreover, when a researcher wants to investigate the causal relationships between a set of dependent and independent variables through an intervention in a real complex environment outside laboratories, classic experimental designs would be difficult and may not lead to reliable outcome. However, as Brown (1992) and Collins (1992) assert, the iteration phases in DBR will help the design-based researchers deal with the complexity of the situation and through certain changes in the learning environment in a real situation, identify their answers. In other words, if the objective of a study is to explore and understand the underlying reasons behind occurrence of a phenomenon (Shavelson & Towne, 2002) or to investigate the particular conditions under which certain interaction occurs, DBR is one of the helpful approaches/tools/methods a researcher can use (Barab, 2014).

DBR helps researchers transform the current situation, knowledge and/or practices, and ultimately develop theory(ies) or advance the effectiveness of the

product/service or even the organization. Due to the practicality of DBR (Denyer et al., 2008), the number of studies that use this method is growing (Bate, 2007; Denyer et al., 2008; Huff, Tranfield & van Aken, 2006). Although this method was initially introduced in educational contexts [see Brown (1992) and Collins (1992)], researchers in other disciplines have shown interest for this approach; including engineering, medical science, law and management (Simon, 1996). However, DBR is being used more gradually in the educational settings (Anderson & Shattuck, 2012).

With an understanding of DBR, defining EDBR becomes easier. EDBR is a form of linking different scientific disciplines in the educational context (McKenney & Reeves, 2013) in order to develop/produce new practices or artifacts and theories that can potentially influence the learning and teaching experience in real world settings (Barab & Squire, 2004). EDBR is mainly concerned with developing usable knowledge (Lagemann, 2002); therefore, the outcome of an EDBR will be a practical product/service for educational practice. According to McKenney and Reeves (2013), usable knowledge is built throughout the research process, particularly based on insights collected from stakeholders, and then will be disseminated with other researchers, through reports, presentations, journal articles and etc., in order to improve the situation or solve a common problem.

Having gone through the literature, EDBR has been described with various characteristics, such as: contextual, adaptive, iterative, collaborative, goal-oriented, flexible, interactive, interventionist, methodologically inclusive multilevel, process-focused, theoretical and yet pragmatic (Cobb et al., 2003; Kelly, 2003; McKenney & Reeves, 2013; Reinking & Bradley, 2008; van den Akker et al., 2006; Wang & Hannafin, 2005). In addition, Anderson and Shattuck (2012) enumerate two major characteristics of a quality EDBR: first, it is conducted in a real educational context,

which in turn provides some validity to the research and ensures that, in at least context of the research and likely others, the results can effectively be applied for assessing, informing and improving practice. The second characteristic is that it focuses on the design and testing of an intervention.

Considering that the nature of EDBR is interventionist, it is understandable that the educational products that are at its centre have a relatively broad range; it might involve development of new learning software or technologies; or it may target development or adjustment of a curriculum for an entire semester, and associated techniques for instruction of a particular topic (e.g., intellectual roles, activity structures); or the development of a professional teaching practice through a teacher education programme (Bell, 2004; Bruner, 1999).

Anderson and Shattuck (2012) analysed 47 studies that were categorised under EDBR, and found that in most of them, the design-based interventions were successful in terms of improved outcomes. Their conclusion was in line with what Dede, Ketelhut, Whitehouse, Breit, and McCloskey (2009) had asserted: "DBR offers a 'best practice' stance that has proved useful in complex learning environments, where formative evaluation plays a significant role, and this methodology incorporates both evaluation and empirical analyses and provides multiple entry points for various scholarly endeavors" (p. 16). However, there are few differences between DBR and formative evaluation methodologies (e.g., instructional design models). The latter are more concerned with improving the value of specific designed artifacts, whereas DBR aims to develop/create models, or in general term 'solution', through which individuals think, know, act and learn. In fact, the concept of 'design' in DBR is a critical component, not just because it is an important tool for meeting the local needs, but also because it can advance theories, investigate, uncover and evaluate theoretical

relationships. In addition, unlike experimental studies, in EDBR participants are not perceived as the 'subjects', but instead they are treated as co-participants in both intervention design and analysis (Barab & Squire, 2004).

3.2.1 Overview of EDBR Process

Bærenholdt, Büscher, Scheuer, and Simonsen (2010) describe DBR as research *through* design, while the design itself is made through research. Thus, DBR may include several researches in itself. In fact, the insights and as mentioned earlier the usable knowledge, evolve gradually through multiple iterations of analysis, exploration, development, testing and evaluation, and refinement (McKenney & Reeves, 2013). Depending on the size or importance of the problem, sometimes an EDBR is a large study that includes several researches.

After reviewing the existing EDBR models in the literature, McKenney and Reeves (2013) built a comprehensive visual model that shows the overall process of an EDBR from the researchers' perspective. As it is shown in Figure 3.2, there are three core phases in an EDBR, namely *exploration/analysis*, *construction/design* and *reflection/evaluation*. Moreover, this generic model emphasises on both theoretical development and/or practice improvement as the expected outcome, and planning for spreading and implementation of the outcome(s), be it theoretical or practical, or both.

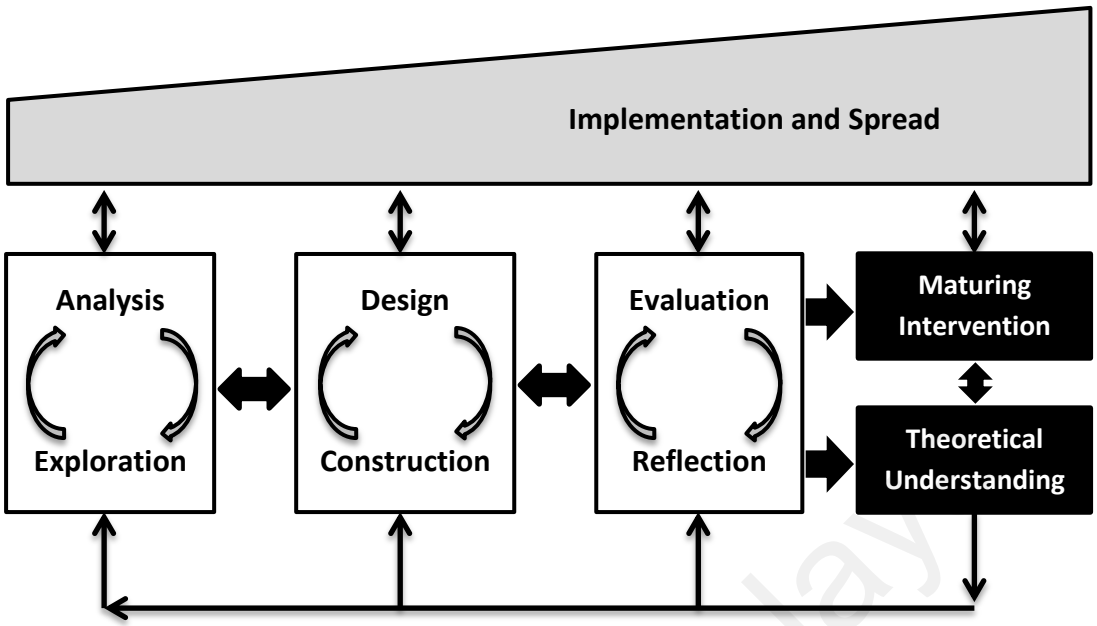

Figure 3.2: Generic Model for Conducting EDBR (McKenney & Reeves, 2013)

The generic model shows two main results of EDBR: maturing intervention and theoretical understanding, both of which ripen with time and can have more relevance locally or be applied more broadly. The intervention directly contributes to practice, as it is addressing a problem, and indirectly improves theoretical understanding, as it depicts how articulated and specific designs can be reified. This theoretical understanding is created through several micro and/or meso-cycles of design research (Figure 3.3) (McKenney & Reeves, 2013). Each time one of the three main phases is undertaken, one micro-cycle takes place. Two of the phases, exploration and the evaluation and reflection, are empirical cycles with data collection involved. Unlike them, the design and construction phase is a deliberative-generative cycle, which is informed by what has been found in other phases in addition to literature and practice.

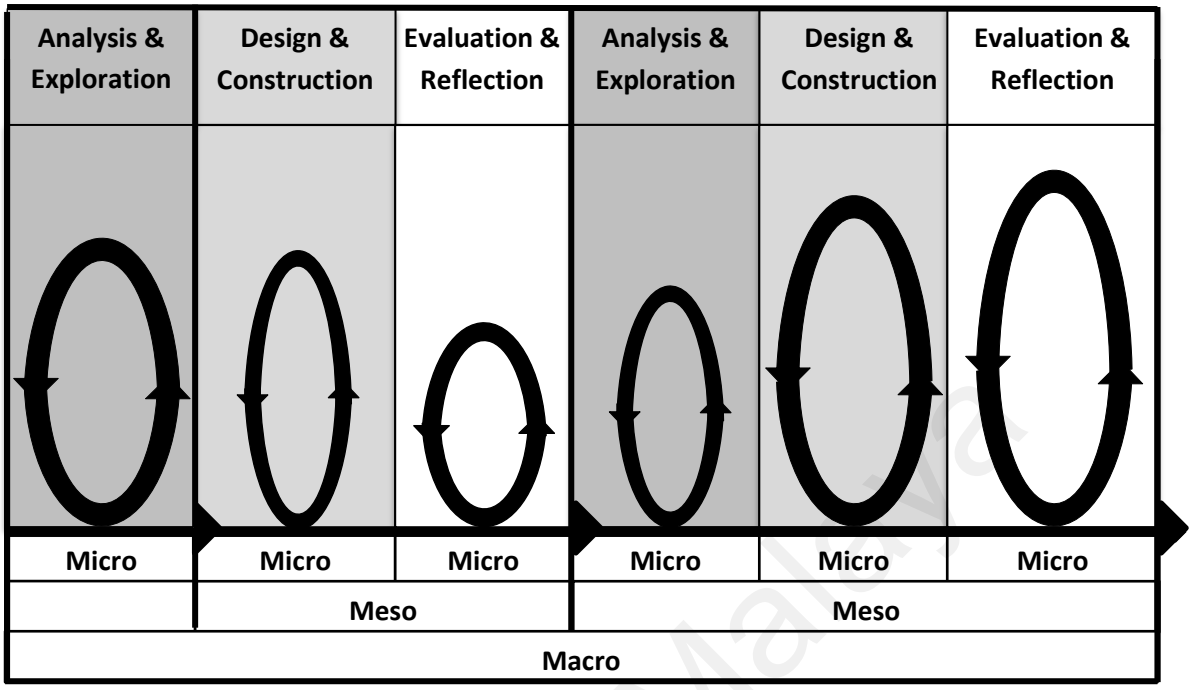

Figure 3.3: Micro-, meso-, and macro-cycles in EDBR (McKenney & Reeves, 2013)

Although DBR is described as a set of iterative processes (Kelly, 2006), in reality it is a flexible (Reinking & Bradley, 2008) and sometimes non-linear framework, where depending on the situation the order of the phases changes (Kirschner, Carr, van Merriënboer, & Sloep, 2002; Ross et al., 2008; Visscher-Voerman, 1999); and EDBR as a type of DBR is no exception (McKenney & Reeves, 2013). In the following section, different phases of EDBR are briefly explained:

3.2.1.1 Analysis and Exploration

In the analysis and exploration phases, the problem is identified. During analysis, the researcher seeks in-house expertise and reviews the literature to obtain theoretical insight to help comprehension of the problem, its context and other related topics. To improve the understanding of the educational problem, needs of the stakeholders, and the target context, collaboration with practitioners is sought in this phase as well.

The main outcomes of this phase are both theoretical and practical; from a theoretical perspective, this phase creates an analytical and descriptive comprehension of the problem at hand in its particular context and from a practical point of view, it clarifies the problem in addition to specifications of long-range goals. Moreover, exploring the opportunities and limits help with determining partial design requirements, and accordingly, initial design plans form based on contextual inputs (McKenney & Reeves, 2013).

3.2.1.2 Design and Construction

During design and construction phase, there is a coherent process to follow and document to reach a solution, tentatively, for the problem. In this phase, potential solutions are created, explored and get considered. The core ideas behind the design, theoretical and/or practical, get verbalised enabling the researcher to share the design framework and obtain critiques. Additionally, guidelines for actually creating the solution also are delineated in this phase (McKenney & Reeves, 2013).

The design phase is usually depicted as the phase in which the solution to the problem is drafted (Bannan-Ritland & Baek, 2008; McKenney, Nieveen, & van den Akker, 2006; Reeves, 2006). In this sense, drafting involves taking design ideas and applying them to building the solution. This generally is carried out with a prototyping, where consecutive approximations of the desired solution are produced or re-created. The outcome of this stage is the intervention design and/or material (McKenney & Reeves, 2013). It should be highlighted that the process of designing an educational experiment is a creative and dynamic procedure. Therefore, any instructional designers can create a unique plan for solving the identified problem (Gagné, Wager, Golas, Keller, & Russell, 2005).

3.2.1.3 Evaluation and Reflection

The evaluation and reflection phase is similar to that of analysis and exploration, in that it constitutes a micro-cycle that is empirical. Evaluation of the completed design might be carried out in the form of testing conducted on or by implementing an intervention. Evaluation may scrutinize different aspects of an intervention including feasibility, soundness, viability, immediate and/or long-term effectiveness and impact, and broader institutionalization. Once the empirical findings are drawn, their results and critical reflection will be used to accept, modify, or even re-design the frameworks, principles or the resultant prototype.

From a practical perspective, what is carried out in the evaluation and reflection phase would initiate ideas for redesign and/or conclusions about the intervention. On the other hand, from a theoretical perspective, what has been done collectively contributes to expanding the theoretical understanding about either the type of intervention that is the subject of the study (when the research is being conducted on intervention) or the phenomena that is directly relevant to the intervention (when research is being conducted through the intervention) (McKenney & Reeves, 2013).

3.2.2 Theoretical Foundation of the Design

Most disciplined studies use one or more existing theories to frame the research inquiry, and therefore the research results will ultimately help build or further elaborate theoretical understanding. An EDBR does that with a defining distinction; as Joseph (2004) states, DBR addresses real world problems "not through theory making or formal investigation, but through designing a solution" (p. 238). What is different about the theoretical orientation in EDBR is that although it is a theory-oriented approach (Cobb et al., 2003), in this kind of research scientific understanding is exploited to shape the design of the solution. Indeed, design-based researchers do not simply rely on

intuition and creativity to make decisions about intervention design and iterative cycles of inquiry, instead, the entire process of EDBR is mainly conducted based on relevant theory(ies) in that particular field along with teaching and learning theories (McKenney & Reeves, 2013). In other words, EDBR is built on the real world context (Wang & Hannafin, 2005). In this study, the theoretical foundation of the intervention design was based on two theories, namely TPB (Ajzen, 1991) and Gagné's (1985) theory of learning.

As explained in the second chapter, since entrepreneurship is an intentional behaviour using intention-based models in EE is significant, and among these models Ajzen's (1991) TPB has been employed extensively over past decades. Furthermore, apart from the fact that the intervention material in EDBR should be designed based on a robust theoretical foundation, it should also engage the students with the course content and ultimately enhance learning process (Miner, Mallow, Theeke & Barnes, 2015). Gagné (1977) explains the importance of learning for human beings by highlighting the responsibility towards acquiring all the knowledge, skills, values and attitudes that will eventually result in human behaviours. Having considered the importance of learning in EDBR context, in this study to improve the learning process, Gagné's (1985) theory of learning was incorporated into the course design; more specifically in the intervention implementation and teaching strategy.

But what exactly is learning theory? Gagné's (1985) theory of learning includes three major elements, which Driscoll (2005) briefly describes as: "a taxonomy of learning outcomes; conditions necessary to achieve the learning outcomes; and nine events of instruction …" (McKenney & Reeves, 2013, p. 64). Gagné et al. (2005) categorise the learning outcomes into five types, namely *intellectual skills*, *cognitive strategies*, *verbal information*, *attitude* and *motor skills*. To enhance these outcomes,

different *internal conditions* (such as previously learned knowledge and/or skills, learner's personal goals and state of mind towards learning the concept/task) and *external conditions* (such as instructional methods and/or material, learning environment) play a critical role (Gagné, 1985; Gagné et al., 2005). In their famous and highly cited book, Gagné and Briggs (1974) introduced nine events of instruction that will enhance the learning process. These events include: 1) gaining learners' attention, 2) informing the instruction objectives to the learners, 3) stimulating retrieval of learners' prior relevant knowledge and/or skills, 4) presenting stimulus/instructional material, 5) providing more guidance for learners, 6) eliciting performance/response, 7) providing feedback for the learners, 8) performance evaluation and finally 9) enhancing the generalizability of the provided knowledge/skills (i.e. ability to retain and transfer).

In the educational context, Gagné's nine events of instruction has been one of the most employed models (Christensen & Osguthorpe, 2004; Ilie, 2014; Smith & Ragan, 2000). Studies show, incorporating these nine events of instruction into the teaching strategy, especially in the face-to-face learning environments, enhances the students' learning experience and provides a structure for the class setting (Buscombe, 2013; Khadjooi, Rostami, & Ishaq, 2011; Miner et al., 2015; Shachak, Ophir & Rubin, 2005). Details of incorporating this model into the teaching material of this study are presented in Section 4.2.

3.2.3 Overview of Design Process in this Study

In this study, in order to analyse and better understand the problem, apprehend the context and getting theoretical inputs, as the first step of analysis and exploration phase I tried to look at the problem in the literature from various perspectives. To do so, an extensive literature review on the topics of EEPs, EEPs in Malaysia, entrepreneurship in sport industry, and sport industry in Malaysia were conducted and common problems

and possible solutions (EEPs types, curriculum, effective teaching methods and etc.) were reviewed. Furthermore, as recommended by research method experts (e.g. Gagné et al., 2005; Malhotra, 2008) a needs assessment was carried out to obtain more specific information and practical insights about the sport industry, teaching sport entrepreneurship and other related issues, from the local stakeholders. For this purpose, I approached four different groups of stakeholders, who were involved with sport industry in different ways, including sport programmes alumni, sport management lecturers, sport authorities and sport entrepreneurs in Malaysia. Based on the literature review and needs assessment outcomes, the draft of the course outline was designed.

Afterwards, to design the course, a set of questions and instructional order were adapted from Gagné et al. (2005), as one of the most used and valid instructional tool (Ilie, 2014), and based on the outcomes of the analysis phase, and following Ajzen's (1991) TPB as the main theoretical foundation of the course, those questions were answered. This led to the draft of the sport entrepreneurship course outline. In order to improve the quality and relevancy of the material, and to evaluate the course outline, it was emailed to four internationally well-known EE instructors. Once the course outline was modified based on the received feedback, it was presented to a number of local sport entrepreneurs to get more practical insights. Although the development of instructional material is challenging, delivering the prepared content is as important as its preparation. In fact, the whole endeavours spent on the course design can bloom or be wasted in this phase. Hence, there should be an implementation strategy for an effective delivery of the completed design. Therefore, the teaching strategy was also drafted, mainly based on Gagné's (1985) theory of learning elements, in particular following the nine events of instruction.

To evaluate the completed design, a pilot intervention, which was a short sport entrepreneurship course with five participants, was conducted. Summative and formative evaluations were performed during the trial course and later the necessary changes were made to both, the curriculum and teaching strategy. That pilot intervention was the only iteration of this EDBR.

3.2.4 Contributors and Participants

EDBR is basically conducted in collaboration with range of stakeholders who, in different ways, are connected to the problem that is being studied (McKenney & Reeves, 2013). To analyse the current situation, and identify and explore the problem in any particular area, the collaboration with those affected by the problem, practitioners and researchers who are working in the same area or have worked on similar issues is of value and somewhat necessary (Clarke & Dede, 2009; Ejersbo et al., 2008; McKenney & Reeves, 2013).

As it was explained earlier, different groups of people contributed to this study, particularly in the design phase. In the analysis and exploration phase, during the need analysis process, four different groups of stakeholders who were somewhat involved in the sport industry were approached: sport alumni (mostly graduated from University of Malaya), sport authorities (from the Ministry of Youth and Sports Malaysia, and Olympic Council of Malaysia), sport industry practitioners (Malaysian sport entrepreneurs/business owners) and sport management academicians (participants of the 9th Asian Association for Sport Management Conference 2013 in Kuala Lumpur, ASEAN Conference on Sports for All (ACOS) 2013 in Putrajaya, Malaysia, and Sports Centre, University of Malaya).

In the design and construction phase, after completion of the first draft of the course outline, it was sent to four EE scholars for expert evaluation purposes and they

generously sent their feedback. Local entrepreneurs also shared their ideas on the course outline along with some helpful suggestions. Their practical comments and suggestions contributed to improve the quality of the course design. In addition, the other contributors to the design phase were five sport management students who voluntarily participated in the first round of the design implementation, i.e. the pilot trial of the designed sport entrepreneurship course, which helped to modify and improve the course content, and enhance the teaching strategy for the main intervention.

3.2.5 Data Collection

This EDBR included two major data collection phases; first during the design process and the second one before and after the intervention. The first phase of data collection was mainly carried out during all different stages of the design process. As mentioned earlier, during the need analysis steps, four groups of stakeholders were surveyed through different means: sport alumni via an online survey form created with Google Docs (see Appendix A), sport entrepreneurs and business owners via another online form created with Google Docs (see Appendix B) and face-to-face interview (with the exact same survey form), sport authorities and sport management academicians were interviewed in a (semi-structured) face-to-face manner.

In addition, the design process included one round of iteration which was implemented through a trial of the intervention implementation. The data collection at this stage was more like a classroom observation that was carried out through the teaching process, by observing the students' responses and reactions, questions, and learning outcomes. Also, at the end of the trial a general feedback about the whole course was enquired from the students, which provided practical insights that

eventually led to some modifications in the course contents and teaching strategy. The second phase of data collection is explained in Section 3.3.3.

3.2.6 Flow-chart of the Design Phase

The summary of the design phase of this EDBR which resulted in the completed design of a sport entrepreneurship course is presented in Figure 3.4:

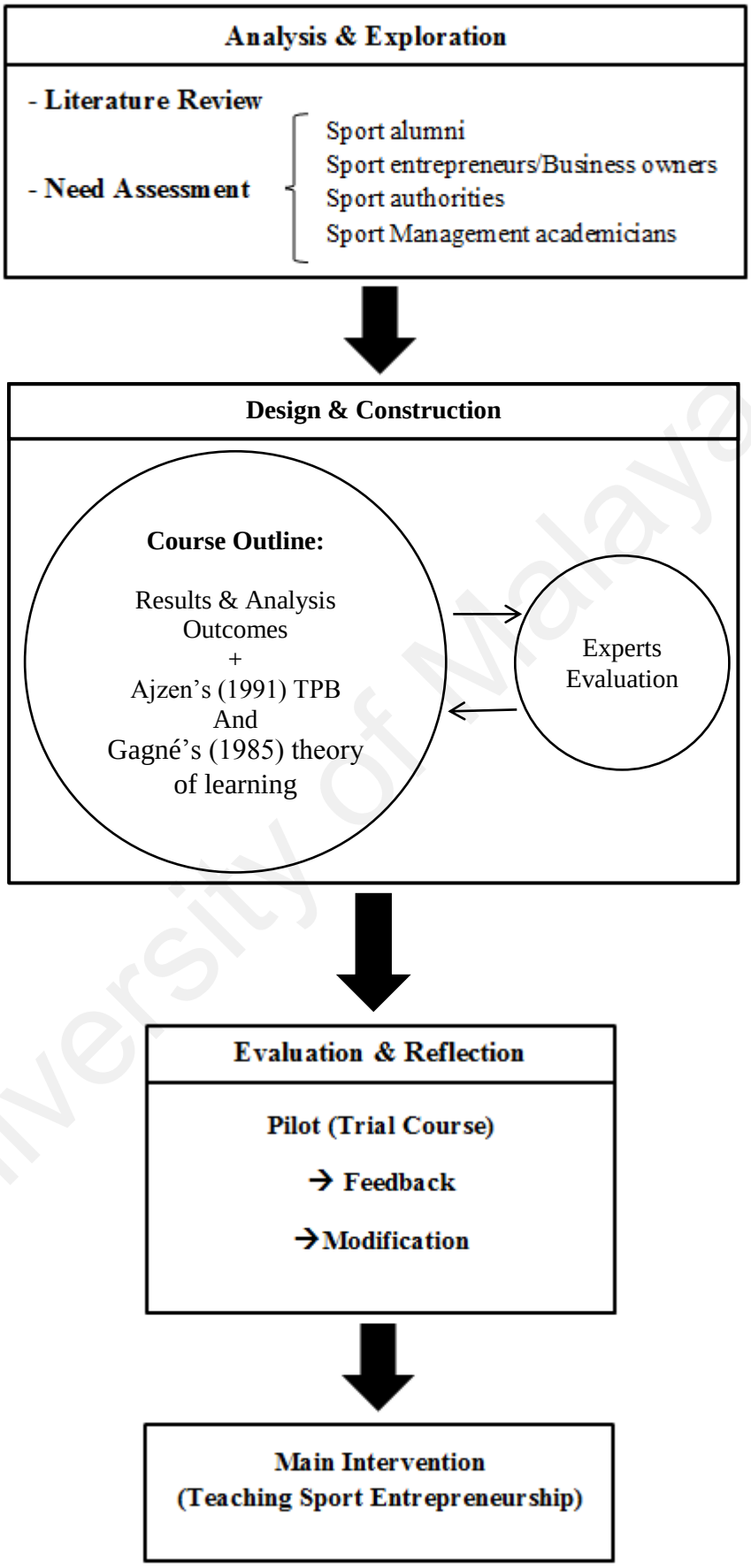

Figure 3.4: Flow-chart of the Design Phase

3.3 Study Intervention

After completion of design process of the sport entrepreneurship course, the second phase was the implementation that was carried out through an educational intervention[1]. As it will be explained later, this intervention was conducted in a quasi-experimental setting. This section provides an overview of intervention, participants, data collection procedures and statistical tests used for data analysis.

Researchers are generally encouraged to carry out their researches using "proven" methodologies (Engeström, 2011, p.598) (Barab, 2014), and since DBR mainly tends to produce solutions for real world problems and most often is not conducted in controlled conditions, the generalizability of its results has been criticized. Contrariwise, DBR scholars believe there are benefits associated with the uncontrolled settings. Barab (2014) argues that limiting research to controlled conditions puts the researchers at the risk of developing artificial meanings devoid of contextual realities, where any interpretation rings hollow in real-world practice. Learning scholars, seeking change in the real world learning environment, conduct learning sciences research in naturalistic contexts, with confounding variables, hypotheses, and political agendas with detailed descriptions of the conditions and processes. Therefore, the pragmatic focus of DBR with its potential of productive impact from interventions at their sites is a key in the methodological process and a justification of the method (Barab, 2014).

Moreover, as Reeves (2006) states, "design research is not an activity that an individual researcher can conduct in isolation from practice" (p. 59). According to the field experts EDBR, most of the time, is carried out in an educational institution where participants are students and/or teachers, parents, staff or those who are involved in that problem (Herrington, McKenney, Reeves, & Oliver, 2007). Therefore, in order to

[1] Prior to conducting the course as the intervention, this educational experiment was approved by the University Malaya Research Ethics Committee (UMREC); approval number: UM.TNC2/RC/H&E/UMREC-85.

evaluate the prototype in an experimental setting, it is very difficult (sometimes impossible) to conduct a randomized controlled experiment; thus quasi-experimental design is inevitable. Next section gives an overview on this kind of experimental design.

3.3.1 Overview of the Quasi-Experimental Design

According to DiNardo (2008) if an empirical study investigates the causal effect of an intervention on a nonrandomized sample, it is called a quasi-experimental research. Christensen, Johnson and Turner (2013) define a quasi-experimental research as an experimental design in which the independent variable(s) is/are manipulated but it lacks random assignment of participants. In a quasi-experimental design, not all the pre-requisite requirements for controlling the effects of extraneous variables are met. However, this doesn't mean that quasi-experimental studies are not reliable (Christensen et al., 2013). Barab (2014) argues that a design narrative that is conducted and presented with care can potentially support "petite generalizations", a term coined by Stake (1995), which is a research that shows other researchers possible challenges, and opportunities they might face in their studies, and even provide strategies to deal with them.

Having gone through the literature, there are numbers of robust studies with design-based approach conducted through quasi-experimental interventions (See, e.g., Barab, Gresalfi & Ingram-Goble, 2010; Clarke & Dede, 2009; Swan, 2007). Moreover, Rubin and Babbie (2008, p. 255) claim that despite lack of randomization of sample, "well-designed quasi-experiments can have a high degree of internal validity" (Thyer, 2012). According to Rubin and Babbie (2008), many scholars and research methodologists, such as William Shadish, have compared the results of several well-designed quasi experiments with those of same but randomized interventions. They

have concluded that under some conditions, non-randomized experiments can produce accurate answers (see, e.g., Shadish, 2011; Shadish, Clark, & Steiner, 2008; Shadish et al., 2011; Shadish & Ragsdale, 1996).

In addition, Cronbach (1983) argues that attempts should be made to build research designs in order to fulfil real situational needs, instead of merely concentrating on meeting the requirements of an idealized experiment (Ottenbacher, 1997). To design the best research, one should consider certain factors, namely the main purpose of the study, the specific research settings and available resources (Cronbach, 1983). Among the various methodologies, quasi-experimental design works well in natural settings (Schoenfeld, 2006).

On the other hand, there are some practical advantages to a non-randomized control group pre-test/post-test quasi-experiment research over a randomized experimental study. Since there is no randomization process in a quasi-experiment, these types of research designs make no change on the research setting. Therefore, the reactive impacts of the experimental process will be reduced and consequently the external validity of the design will be improved (Dimitrov, Rumrill, & Phillip, 2003). Hence, the experiment will be similar to real situations and conclusions can be more practical.

Having considered the study limitations, and more importantly the practicality of uncontrolled setting, the intervention phase of this study included a quasi-experimental pre-test/post-test control group design. Since the primary objective of this EDBR was to design a standard and effective sport entrepreneurship course, it was important to conduct the intervention phase in a real situation, without controlling any factor that could potentially make the condition unrealistic. However, in order to make causal inference from quasi-experimental studies, as Christensen et al. (2013)

recommends, the plausible threats to internal validity of the experiment need to be identified. In this study, threats that could reduce the internal validity of the intervention were incidents that could potentially increase students' EIs outside the designed course; incidents like being inspired by an entrepreneur (either through watching documentaries, TV programs or by meeting a family member who is an entrepreneur or attending in a workshop or presentation speech, etc.) or in some cases losing their jobs. Needless to mention that these incidents may occur in a real life at any time, since the purpose of this intervention was mainly evaluation of the completed design; those kinds of threats had to be taken into consideration. Therefore, to identify the possibility of these threats, at the end of the course students were asked to report if they had experienced any of the aforementioned incidents while attending the course. No such incidents had occurred.

3.3.2 Participants

Researchers choose their research method(s) based on the philosophical beliefs and the resources they have; among them are the research site and available participants (Skinner et al., 2014). As mentioned earlier, the intervention of this study was conducted as an educational experiment that included both experimental and control group. The sport entrepreneurship course was designed for sport students in Malaysia; hence, participants of both groups could be any sport students of Malaysian universities. However, since the intervention was conducted during, and as part of, a mandatory subject in Sports Centre, University of Malaya all the participants were students of this Centre. Indeed, in this study 'intact sampling' was exploited. According to Matthews and Kostelis (2011), intact sampling is a sampling method used by researchers when a group of participants who are already grouped together for other purposes are chosen for their research.

The experimental group included 26 third-year students of Sport Management (at undergraduate level), and the control group consisted of 26 second-year students of the same program at the same Centre. Considering the conditions, it was the largest possible sample size for the experimental and control groups.

Although it is better to form the experimental and control group based on participants with similar conditions, in this study it was impossible due to some limitations: according to the policies of the Sports Centre students of the same intake pursue subjects together in the order that the Centre offers, so it was impossible to form the control group with third-year students. However, as it will be explained more in Section 4.3.2, the Chi-square analysis results showed there was no significant difference among experimental and control group at the baseline.

Nevertheless, it should be highlighted that apart from the practicality of quasi-experimental design for real world problems, in the context of EE, if a design-based researcher wants to evaluate the completed design by investigating the change in the participants' EIs, a randomized experimental design can be problematic in terms of participants bias; as Kolvereid and Moen (1997) argue, in educational context, a randomized group of participants in an entrepreneurship course could potentially include participants attending the course because they have higher levels of EI. Therefore, it is difficult to infer the effectiveness of such courses based on the students' EIs. Scholars have called this: "self-selection bias" (Liñán, 2004; McMullan & Long, 1987).

3.3.3 Data Collection Process

The second phase of data collection for this study was carried out as part of the intervention phase, which was a pre-test/post-test control design through a paper-pencil questionnaire. The pre-test and post-test data of the experimental group was obtained at

the first and the last session of the educational intervention. In the following sub-sections, the instrumentation procedures, the pilot study, main intervention data collection and the measures are explained.

3.3.3.1 Instrumentation

As elaborated in Section 3.2, the main theoretical foundation of the intervention design of this study was TPB (Ajzen, 1991) and the primary objective of the course was to increase the EIs of students. Therefore, to collect the relevant data, a valid and reliable instrument that had been designed based on Ajzen's (1991) TPB was needed. After reviewing previous studies in the field that investigated TPB (Ajzen, 1991) and its constructs, the Entrepreneurial Intention Questionnaire (EIQ) was chosen.

The EIQ is one of the most famous and commonly used questionnaires among studies relevant to TPB and EI. It was originally developed by Liñán and Chen (2009) incorporating entrepreneurship and psychology literature. Their study was later published in the prestigious journal of "*Entrepreneurship, Theory and Practice*". In 2011 this instrument was updated (EIQ v3.2) and employed in another study, published in the journal of "*Entrepreneurship & Regional Development"* by Liñán et al. (2011b). Having considered the theoretical foundation of this intervention and the research questions, this instrument was significantly valid and relevant for this study. Permission to use this instrument was obtained from Dr. Liñán.

Due to the contextual differences between the current study and the one for which EIQ was designed, including social and cultural specifications as well as the majors of samples, one being business and economics and one sport, the original questionnaire had to be translated to Malay language (Bahasa Melayu). According to Brislin (1976, 1986) a careful check is needed on translation equivalence. Hence, the instrument was sent to an official translation service centre to be translated into Bahasa

Melayu. Afterwards, it was back-translated into English by a PhD candidate of faculty of Language and Linguistic at University of Malaya. Then again the new English version was translated into Bahasa Melayu by another PhD candidate of the same faculty. The outcome was checked and approved by the researcher's supervisor (who is a Malaysian academician and holding a Bachelor of Education in Teaching English as a Second Language). The final version of the questionnaire was in both English and Bahasa Melayu (Appendix C). To check the reliability of the questionnaire, a pilot study was conducted.

3.3.3.2 Pilot Study

According to Robson (2002) a sound questionnaire can help a researcher collect generalizable data. In order to have a sound survey instrument, reliability and validity of the questionnaire need to be assured. Nunnally (1978) states that to determine the ability of an instrument to produce consistent measurements, the reliability of that instrument should be analysed. Reliability of a questionnaire refers to the degree of internal consistency (Sarantako, 2005). To check the reliability of an instrument, Cronbach's (1951) coefficient alpha is the most commonly used test (Cho & Kim, 2014; Pallant, 2013) which measures the internal consistency of a measure (Flynn, Schroeder & Sakakibala, 1994; Nunnally, 1978).

Therefore, this highly cited questionnaire with its reliability having been tested several times in previous research was put through a pilot study; as it was translated and going to be used in a different context. Following the convenient sampling method, the questionnaire was administered among 34 students in different faculties and the main library of University of Malaya. Cronbach's coefficient alpha test was performed using SPSS 18; the results for all 21 items of the questionnaire ranged between 0.72 and .91.

According to Eckstein (2004), items in an instrument are internally consistent if the Cronbach's coefficient alpha is 0.6 and above. Gerbing and Anderson (1988) state that for an internally consistent instrument, the lower bound for Cronbach's coefficient alpha should be set on 0.7 (Lee, 2010). As the pilot study results showed, the Cronbach's coefficient alpha for all four constructs in this instrument, namely Entrepreneurial Intentions, Attitude toward Entrepreneurship, Subjective Norms and Perceived Behavioural Control were above 0.7. Therefore, these constructs significantly contributed to the internal consistency of the questionnaire and the translated questionnaire seemed reliable to use in the intervention data collection.

3.3.3.3 Pre-Test and Post-Test Data Collection

a) Experimental Group Pre-Test

In the first session of the course, in February 2015, a brief introduction about the whole research, the course and the intervention was delivered to participants by the researcher and then the questionnaire was distributed among students along with the consent form. Students were informed that participation is not mandatory and they can refuse to participate in this survey, also there is no right or wrong answer for the questions and their responses will be treated as confidential.

b) Control Group Pre-Test

The pre-test data of the control group was collected on the same day as the experimental group pre-test. The control group consisted of second year students of Sports Centre, University of Malaya. Data was collected in one of the sport management classes with prior permission from the instructor. The same questionnaire was administered among the students. They were briefed about the purpose of the data

collection and the research and reminded that participation in this survey is completely optional.

c) Experimental Group Post-Test

On the last session of the course, on March 2015, and upon completion of the instruction, the same questionnaire was distributed among the students. They were again reminded that there is no right or wrong response to the questions. Also, they were informed that this survey is being carried out for an academic research and it does have no impact on their credentials; confidentiality of their responses was assured as well.

d) Control Group Post-Test

Similar to the baseline data collection, the post-test data of control group was collected on the same day it was done for experimental group. After distribution of the questionnaire, students were thanked for their participation and were reminded about the confidentiality of their responses.

3.3.3.4 Measures

As explained earlier, for the purpose of data collection in the educational intervention phase of this study, the EIQ v3.2 was used. This questionnaire that was designed based on TPB's (Ajzen, 1991) four constructs (i.e. ATB, SN, PBC and EI), originally includes 20 items, which measured by 7-point likert-type scale, ranged from 0 (total disagreement) to 7 (total agreement). Since it was an educational intervention and the participants were students, their lecturers' idea about self-employment decision" was added to SN items; therefore, the questionnaire used had a total of 21 items. The constructs of the questionnaire are briefly explained here:

- EI

The dependent variable and the primary construct in this study was students' EI. Rather than a merely yes or no question, this variable is usually measured within a range from 0 to different levels of intentions to start a business venture (Thompson, 2009). In this questionnaire, EI was measured by these 6 items; among them, B9 and B19 were reverse-scored:

B4. I am ready to do anything to be an entrepreneur.

B6. I will make every effort to start and run my own business.

B9. I have serious doubts about ever starting my own business.

B13. I am determined to create a business venture in the future.

B17. My professional goal is to be an entrepreneur.

B19. I have a very low intention of ever starting a business.

- ATB

This construct measures the extent to which an individual thinks positively about the idea of becoming an entrepreneur. In the questionnaire, 5 items measured this construct, which two of them (B2 and B12) were reverse-scored.

B2. A career as an entrepreneur is totally unattractive to me.

B10. If I had the opportunity and resources, I would love to start a business.

B12. Amongst various options, I would rather be anything but an entrepreneur.

B15. Being an entrepreneur would give me great satisfaction.

B18. Being an entrepreneur implies more advantages than disadvantages to me.

- SN

This construct is about determining the positive or negative social pressure on an individual if he/she wants to become an entrepreneur. It measures an individual's

perception of how people in his/her social cycle, including family, friends, peers and reference people, would react to entrepreneurship as his/her choice of career. The items that measured perceived SN of participants are as follows:

B3. My friends would approve of my decision to start a business.

B8. My immediate family would approve of my decision to start a business.

B11. My classmates would approve of my decision to start a business.

B21. My lecturers would approve of my decision to start a business.

- PBC

It measures individual's belief in his/her aptitude to perform the behaviour of becoming an entrepreneur. In this questionnaire, the following 6 items measured students' PBC (B5 and B16 were reverse-scored):

B1. Starting a firm and keeping it viable would be easy for me.

B5. I believe I would be completely unable to start a business.

B7. I am able to control the creation process of a new business.

B14. If I tried to start a business, I would have a high chance of being successful.

B16. It would be very difficult for me to develop a business idea.

B20. I know all about the practical details needed to start a business.

3.3.4 Statistical Analysis

In order to analyse the data several statistical tests were conducted in this study. First, to check whether there was any significant difference between students of two groups at the baseline, four categorical variables of age, gender, ethnicity and employment status of their parents were analysed by conducting a chi-square test. Second, in addition to comparing the categorical variables, as recommended by experts (e.g., Field, 2013; Pallant, 2013) independent samples *t*-test with 95% Confidence Interval was conducted

to check if the level of dependent variables of this study in the experimental and control group had no significant difference before conducting the intervention.

To investigate the effect of the intervention on Ajzen's (1991) TPB constructs, in order to answer to the research questions 2-5, independent samples *t*-test was conducted. Then to identify the relationships between variables, bivariate Pearson correlation analysis was carried out. Eventually, a hierarchical multiple regression analysis was performed to identify the strongest predictor of students' EIs.

3.4 Follow-up

Follow-up enquiries are usually conducted a few months, up to a year or more, after the completion of the experimental research, to see the longevity of its impact. But in this study measuring the effectiveness of the intervention after some months was difficult, as the course was the first 7 sessions of a mandatory subject, and it continued after the intervention. Because of this, the outcomes of the follow up study which was relevant to EI, as the dependant variable and the primary quantitative target of the intervention, cannot be easily correlated with this intervention. However, as the final step of this EDBR, which was another evaluation and reflection meso-cycle, and to answer to the last research question, a follow up enquiry was carried out, to get some practical insights from experimental group participants, now fresh graduates, to see how the course can be changed or modified to improve the outline and increase its effectiveness. The results of the follow-up enquiry are presented in Section 4.4.

3.5 Summary

The primary aim of this study was to design a standard and effective sport entrepreneurship course. I used educational design-based approach to design and evaluate the course. In this chapter, after explaining DBR and EDBR, and reviewing

the generic process of these approaches, the Micro-, meso-, and macro-cycles in EDBR were described. Further, I briefly explained how I undertook each phase. I conducted the needs analysis phase by approaching four different groups of sport industry stakeholders (sport programmes alumni, sport authorities, sport entrepreneurs and sport management lecturers). Based on the literature review and needs assessment outcomes, the draft of the course outline was designed. I used TPB (Ajzen, 1991) as the theoretical foundation of the course and designed the teaching strategy based on nine events of instruction (Gagné & Briggs, 1974). The designed outline was later evaluated by EE experts and local sport entrepreneurs. Then the pilot implementation of the course, as the evaluation phase of this EDBR, was explained in this chapter. The main intervention includes a pre/post-test quasi-experimental with control group. Sport students of Sports Centre, University of Malaya participated in this study. Further in this chapter I explained the process of instrumentation, translation and pilot test and the the statistical tests (chi-square test, *t*-test, bivariate Pearson correlation analysis and hierarchical multiple regression analysis) I used to analyse the data were explained. The chapter ended with a brief explanation about the follow-up enquiry that I conducted 6 months after the course.

CHAPTER 4: RESULTS

4.1 Introduction

As explained earlier, this study consisted of two major phases, including the experiment design (a sport entrepreneurship course), the first and primary objective of the research, and the intervention implementation (teaching the designed course), which helped to answer research questions 2-5. Moreover, a follow-up study was carried out six months after completion of the intervention; to get more insight about students' experiences after graduation and channel them into the course outline for future use. This chapter presents the results of these three phases in three broad sections. In the first section, all the details regarding each step carried out in this study to design a sport entrepreneurship course are explained. The second section provides the results of the statistical tests conducted to analyse the impact of the course (intervention) on students. At the end, the follow-up outcomes are presented in the third section.

4.2 EDBR Outcome

As described in the third chapter, an EDBR includes three main phases, namely analysis and exploration, design and construction of the experiment, and evaluation and reflection. This section presents the details and outcomes of these phases, which eventually led to design of the experiment (i.e. a sport entrepreneurship course for sport students in Malaysia). It needs to be highlighted that the details and outcomes of these steps might be different if it had been carried out by another researcher, as Gagné et al. (2005) state that designing an instructional system is a creative and dynamic procedure, thus, for solving the identified educational problem, different researcher provide different designs. McKenney and Reeves (2013) also argue that although EDBRs include three aforementioned phases, there is no one-size-fits-all framework and

depending on researcher or the context the EDBR is being conducted in, different steps may be carried out to tackle different design challenges.

4.2.1 Analysis and Exploration

As mentioned in the first chapter, the main purpose behind this study was to provide a solution for the criticism over unproductive EEPs and contribute to fill the gap of studies that cover the different and effective designs for such programs, in particular among non-business programmes. As the first step of this EDBR, the problem had to be analysed and investigated from different angles. The process of exploration started from an extensive literature review over different topics around EE and EEPs. Some parts of the problem that was reflected in the literature were provided and discussed in the second chapter. In addition, the following points were drawn from the literature that helped form the basis of the course outline:

1. EEPs' are classified into three main categories: teaching *about* entrepreneurship, teaching *in* entrepreneurship and educating *for* entrepreneurship.

2. An EEP aims to achieve one or combination of these objectives: a) Participants' awareness about entrepreneurship and self-employment; b) Entrepreneurial knowledge and skills required for starting a business; c) Enhancing entrepreneurial dynamism.

3. EEPs contents in general: 'know-why' or why entrepreneurs act and behave entrepreneurially (attitudes, values and motivations); 'know-how' or how to do it (entrepreneurial skills); 'know-who' or who should we know throughout the entrepreneurship process (social skills and networking); 'know-when' or when to do it (intuition and experience); and 'know-what' or what activities need to be done (knowledge).

4. The modern EEPs should include a range of skills that young entrepreneurs require, such as idea discovery and evaluation, new product development, leadership, and exposure to technological innovation.

5. Three vital skills for young entrepreneurs: selling, managing people and creating new product and service.

6. Important soft skills that should be included in EEPs: such as learning to live with uncertainty, decision making skills, ability to maintain the life–work balance, developing empathy and leveraging failure.

7. EE should develop skills to face early lifecycle business challenges; in particular, those that startups usually deal with such as opportunity discovery, effectuation, market entry, the legal requirements of startups and intellectual property rights.

8. The content of EEPs is usually selected based on the target audience; so regional factors are important to consider.

9. Teaching methods for EE: 1) the use of the classics method (educator-oriented), 2) action learning (student-centred), 3) new venture simulations, 4) the development of real startup, 5) experiential learning, 6) video role plays, 7) skill-based courses, 8) technology-based simulations and 9) mentoring.

10. Three stages in teaching entrepreneurship for non-business students: a) opportunity recognition, b) preparing for opportunity exploitation, and c) opportunity exploitation.

11. Inviting entrepreneurs to the class can enhance students' entrepreneurial knowledge and skills.

12. To infuse entrepreneurial skills among non-business students, EE should be more specific and discipline-based.

13. One of the best pedagogical practices for teaching EE to non-business programmes: using relevant case studies and mentoring with practicing entrepreneurs.

14. One study showed digital skills, strategic management and financial skills are considered as important topics for SEE.

15. In Malaysia, the teaching methods in EEPs are more theoretical in nature, too exam-oriented, and lack emphasis on the practical side of enterprise development.

16. In Malaysia, EE should enhance the attitude of graduates towards self-employment, risk-taking and creative thinking, as well as skills needed to manage and run newly created sustainable business ventures.

In the next step, to acquire more practical insights for preparation of the intervention design, a general enquiry and needs assessment was carried out from four groups of sport industry stakeholders, including sport programmes alumni, sport entrepreneurs and business owners, sport authorities and sport management lecturers in Malaysia. The main purpose of these short and semi-structured interviews and surveys was to determine whether, according to sport industry stakeholders, entrepreneurship is an option for Sport graduates, and also there is a need for SEE course, or not. As explained in Section 3.2.5, sport alumni and sport entrepreneurs and business owners were surveyed via two different online surveys (see Appendix A and B) and sport authorities and sport management academicians were interviewed face-to-face. Their feedback approved that there is a big need for SEE while entrepreneurial opportunities already exist for sport graduates to start their own business.

Out of 85 sport alumni approached to participate in an online survey, and after two reminder emails, only 11 responded; the demographic characteristics of them are presented in Table 4.1. All of them had already participated in one or more business courses during and/or after their studies, and although only three of them were self-employed, all of them stated that they are willing to attend in a sport entrepreneurship course. The survey included two open-ended questions. The first one asked what specific topic they would like to learn in a sport entrepreneurship course. Their responses showed business plan preparation and marketing skills were more important to them; other topics are presented in Figure 4.1. The second open-ended question asked what is needed to set up a business, for a sport graduate who wants to be self-employed. This question was important to ask because as sport alumni their responses to this question could help better design the course outline based on local knowledge and experiences. As presented in Figure 4.2, financial resources was the most common response, and after that business and marketing skills were pointed out more than other needs.

Table 4.1: Needs Assessment from Sport Alumni (N = 11)

Demographic characteristics	Frequency
Gender	
Male	7
Female	4
Occupation	
Self-employed	3
Employee	8

Table 4.1 continued

Demographic characteristics	Frequency
Respective Industry	
Sport Industry	9
Other Industries	2
Highest Academic Degree	
Bachelor	9
Master	1
PhD	1
Prior Attendance in any Business Course	
Yes	11
No	0
Self-employment Tendency	
Yes	2
No	9
Existence of self-employment opportunities in sport industry for graduates	
Agree	9
Disagree	1
Not Idea	1
Need for Entrepreneurship course in all sport programmes	
Yes	11
No	0
Would like to attend in such courses	
Yes	11
No	0

Figure 4.1: Business Aspects That Alumni Would Like to Learn in an Entrepreneurship Course

Figure 4.2: Skills Sport Graduates Need for Entrepreneurship (According to Sport Alumni)

In addition, to reach sport practitioners in Malaysia, 31 sport entrepreneurs and business owners were identified through an online search and the online survey form was emailed to them, 12 of them replied. Moreover, 10 persons who were working in sport businesses were interviewed face-to-face, with the exact same questions in the survey form. Therefore, the total of 22 sport practitioners participated in this part of enquiries. From their feedback it could be found that almost all of them believed there are available opportunities for self-employment in the sport industry and they strongly believed that sport entrepreneurship courses are needed in the curricula. Table 4.2 provides more detail about their demographic information. As business owners or managers who have been working in sport industry in Malaysia for several years, their ideas about what is needed for a young sport graduates to become a successful sport entrepreneur was an important issue for my study. As presented in Figure 4.3, the most emphasised needs/skills were business skills and experience, followed by managerial skills and general knowledge about the local market. Interestingly, financial resource was not believed the biggest need, unlike the assertions of the sport alumni. During the interview, one of the business owners suggested more emphasis should be made on 'idea evaluation skills', since many young and inexperienced entrepreneurs fail because they make their business on the wrong idea or unreliable basis.

Table 4.2: Needs Assessment from Sport Entrepreneurs/Business Owners (*N* = 22)

Demographic characteristics	Frequency
Gender	
Male	16
Female	6
Job Position	
Owner	19
Manager (at any level)	3
Highest Academic Degree	
Diploma	11
Bachelor	10
PhD	1
Prior Attendance in a Business Course	
Yes	17
No	5
Existence of self-employment opportunities in sport industry for graduates	
Agree	21
Disagree	1
Need for Entrepreneurship course in all sport programmes	
Yes	22
No	0

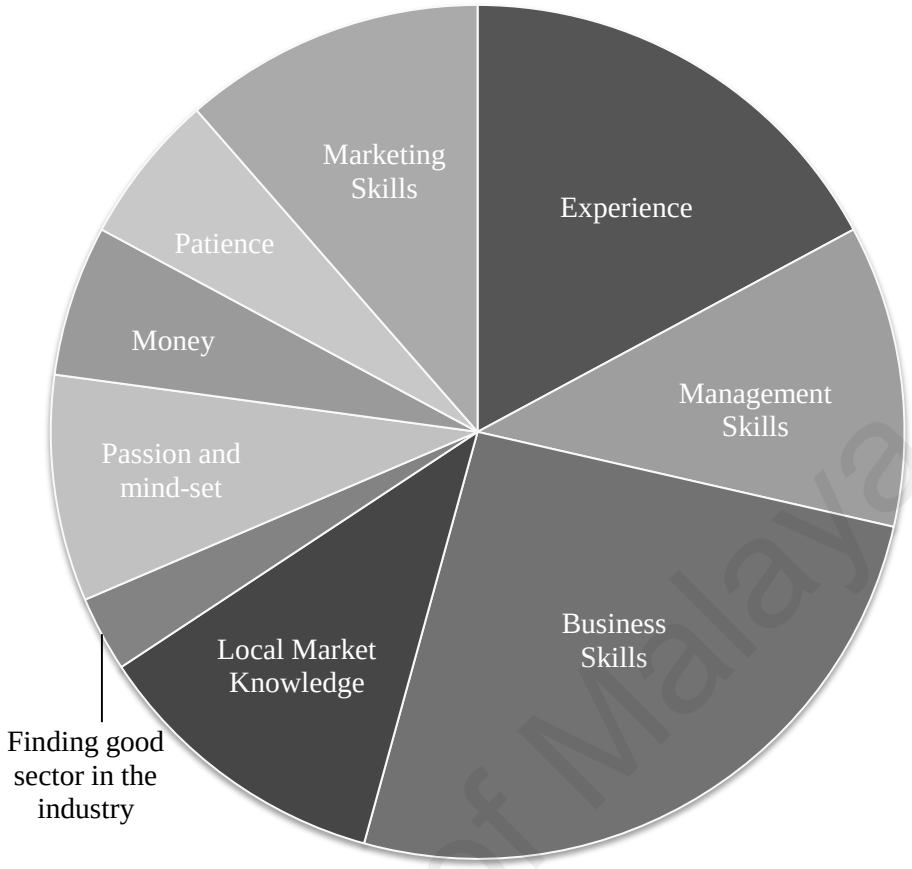

Figure 4.3: What is needed for being a Successful Sport Entrepreneur (According to Sport Entrepreneurs/Business Owners)

Furthermore, two sport authorities, from the Ministry of Youth and Sports Malaysia and Olympic Council of Malaysia, agreed to participate in a short interview about the needs assessment phase of my research. Both of them strongly supported the idea of a specific course designed for sport students and asserted that in recent years and after several government initiatives and supporting plans, the sport industry in Malaysia has expanded and there are numerous opportunities for sport graduates to start their own businesses. They also suggested that it will be very helpful to introduce these government initiatives, such as several loans that Malaysia government provides for young entrepreneurs, to students, either in a brochure or during teaching. The last group that was approached in the exploration phase was sport management lectures. 16

academicians, 6 females and 10 males, participated in a short face-to-face interview. All of them believed that sport graduates can find an opportunity for self-employment in the sport industry. Not different to other stakeholders of sport industry, sport management lecturers also stated that there is a need for an entrepreneurship course in every sport programme, designed specifically for sport students; a course that should be more focused on starting a small business, rather than typical business courses. It was suggested by one of the lecturers that because of some cultural differences between the three major ethnic groups in Malaysia, a careful attention should be made on contextual factors. In addition, two lecturers shared their experiences of inviting successful managers in their classroom and suggested that this idea might be useful for my intervention as well.

When a researcher is collecting data about a particular subject, his/her interpretation may affect the outcome of the research (Petersen & Wohlin, 2010). To avoid this bias, research method experts recommend direct comparison of two or more sets of data about the specific problem or subject being studied, known as triangulation of data sources (Skinner et al., 2014). Data triangulation includes employing two or more methods or different information sources and has been found to be a helpful method in studying social phenomenon (Bryman, 2015). The responses of different stakeholders of sport industry in Malaysia, who participated in the needs assessment phase, fall within one range and the outcome appears trustworthy and reliable.

As described by McKenney and Reeves (2013), the main outcome of the analysis and exploration phase in an EDBR is twofold: practical and theoretical products resulted from comprehensive exploration of the problem. In this study, the extensive review of the literature followed by the needs assessment provided a clear understanding that self-employment can be an achievable option for sport graduates,

since there are plenty of entrepreneurial opportunities in the industry. On the other hand, it was concluded that there is a big need for sport entrepreneurship course/programmes designed specifically for sport students and those who want to start their own business in sport industry. From the theoretical point of view, the outcomes of this phase showed which topics are generally essential to be included in an EE course, and in particular which topics are important to add for such courses in sport context and in Malaysia.

In the next step, in order to prepare the structure of the course outline, the basic elements of the course were summarised by answering to questions that were adapted (with some changes and customisation) from Gagné et al. (2005, pp. 24-26). Table 4.3 presents these questions and provided answers. Eventually, based on the collected information and the outcomes of the needs assessment, the draft of the course outline was designed.

Table 4.3: Needs Assessment from Sport Entrepreneurs/Business Owners (*N* = 22)

No.	Questions	Answers
1.	Who will be attending in this course?	Undergraduate students of Sports Centre, University of Malaya.
2.	What would be the main objectives of an EEP for Sport students?	• Providing basic knowledge about entrepreneurship. • Creating/developing basic entrepreneurial skills and competence. • To increase students' EIs.

Table 4.3 continued

No.	Questions	Answers
3.	What type/level of EEP is this?	Mainly a "know-why" and "know-what" teaching *about* entrepreneurship course, with some highlights about "know-who" and "know-how" topics.
4.	How this course will make students better persons?	During this course innovativeness, creativity and idea generation techniques will be instructed which can help student to be better critical thinkers. In addition, they will be encouraged to be observant by learning some problem identification skills which hopefully can help them find/solve problems even if they don't become entrepreneurs.
5.	What types of learning activities are available and can be used in this course to boost learning process?	Video, Role game playing, Presentation by entrepreneurs
6.	What topics should be covered in this course?	• Basic of entrepreneurship: Definition, types, process, behaviours, advantage. • Innovativeness, creativity and Idea generation and evaluation. • Basic of business skills: Marketing, Negotiation skills, social media.

Table 4.3 continued

No.	Questions	Answers
		• Sport industry knowledge: local and global. • Company Structure, teamwork, finding business partners and team building. • Financial knowledge, investment types. Risk taking, how to handle failure, etc.
7.	Skills that should/will be improved at the end of this course:	• Creativity • Idea generation/Opportunity discovery • Idea evaluation • Idea development & implementation • Business Skills (as much as time allows)
8.	What attitudes should students leave this course with?	• Positive attitude towards entrepreneurship • Acknowledge and respect the role of entrepreneurship on the social and economic development • Critical thinking • Tolerance towards failure • Positive attitude towards risk taking
9.	What skills and knowledge students will attend this course with?	• Sport Management subjects such as sport event management, Sport media etc.

Table 4.3 continued

No.	Questions	Answers
		• Sport Psychology, Physiology, Anatomy (basics) Research Methodology (basics)
10.	What resources are needed for this course?	• PowerPoint slides • Videos about sport startups and small businesses • Case studies about sport startups and small businesses • Video-projector & Speaker.

4.2.2 Design and Construction

During this phase, the outcomes of previous stage had to be finalised to form the intervention design, i.e. the outline and teaching strategy for a sport entrepreneurship course. As discussed in Section 3.2.2, the theoretical foundation of this EDBR was based on the Ajzen's (1991) TPB. Therefore, the outcomes of analysis and exploration phase were grounded based on four constructs of TPB. To do so, similar to the previous phase, a set of questions were adapted from Gagné et al. (2005), and following Ajzen's (1991) TPB, the relevant answers and instructions were provided (Table 4.4). That led to the final draft of the sport entrepreneurship course outline.

Table 4.4: Applying Ajzen's (1991) TPB as the Theoretical Framework of the Design

No.	Questions	Answers
1.	What are the primary goals of the course?	• To provide sport students with basic knowledge about entrepreneurship. • To develop basic entrepreneurial skills and competence among sport students. • To increase sport students' EIs.
2.	Transfer course goals into major course objectives based on TPB's elements:	• To introduce the basics of entrepreneurship. • To highlight entrepreneurship benefits and create positive attitude toward entrepreneurship. • To improve students' self-confidence to pursue their entrepreneurial ideas/dreams and failure acceptance. • To introduce some of the important entrepreneurial skills required for starting a business.
3.	Based on the course objectives, resources and constraints, what are the major topics for this course?	• Introduction to Entrepreneurship • Entrepreneurial behaviour & Attributes • Entrepreneurial Skills • Common Knowledge

4.	Define major outcomes of each major topic.	1) Students should be able to define entrepreneurship, its different types, and the process of creating a business. Also they should be able to talk about the various advantages of entrepreneurship. 2) Students should be able to define creativity and innovation, idea generation process, methods to improve creativity, how to create new ideas and discover opportunities. Also, they should be able to explain entrepreneurial behaviour. 3) Students should be able to explain how entrepreneurs evaluate ideas, how they improve and develop ideas. Also they should be able to explain business plan content, marketing strategy and negotiation skills, social media and business model, how to find team member, how to register a company in Malaysia. They need to understand the very basic of financial terms and different options to get financial support. 4) Students should be able to talk about the sport industry and its different segments, and have general basic knowledge about some of the current trends in sport industry, and more importantly, should be able to apply their understanding from this course on other subjects.

Afterwards, based on the outcomes of previous steps, a detailed outline was designed for every session of the course. In choosing main topics, different countries'

national standards for EEP contents (some of them explained in Chapter 2) were taken into account. Upon completion of the draft of the design, it was sent to four internationally well-known EE instructors for it to be assessed by them as the panel of experts. This is a common practice to improve the quality and relevancy of the teaching outline in educational interventions.[2] All evaluators approved the course outline, and found the order of the topics logical; they also suggested the followings:

1. The objective of the course can be broader than merely increasing students' EIs.
2. The concept of social entrepreneurship can be discussed in relation with Sport industry, since this industry involves vast variety of voluntary activities.
3. It would be more effective if case studies are discussed towards the end of the course.
4. It might be a good idea to ask students be creative with what they have learned in the course and come up with new ideas themselves.

After some modifications following the above suggestions, the new version of the course design was presented to three local sport entrepreneurs to get more practical insights. They approved the plan, and one suggested paying more attention on the local market topics. Although the schedule of the course was very limited, few more sections about local sport industry and cultural issues associated with business were added into the teaching agenda in the form of short case studies or examples. For some of the topics with no example, videos or case studies from local businesses available in the Internet, few general and specific questions were emailed to some of local sport business owners and those relevant responses were added to the teaching materials and one short interview was prepared. The purpose of this interview was to introduce a small sport company that was successfully operating to students. According to Keller

[2] It is worth to mention it again that EDBR process is iterative and flexible, and based on the nature of the work, the order of the core phases can be changed. In this study, the expert evaluation of the outline draft was a meso-cycle of evaluation/reflection phase that took place within the design/construction phase.

(1987; 1999) relevance is one component of increasing motivation among learners (Gagné et al., 2005). A story of a small successful company can be a good source of motivation during an EEP. Also, another entrepreneur agreed to attend in one of the course sessions to give a short talk about his entrepreneurial journey. Eventually, the final draft of the course outline, as presented in Table 4.5, was designed.

Table 4.5: The Final Draft of the Course Outline Design

General Topics	Major Units of Instruction		Session
Introduction to Entrepreneurship	• Entrepreneurship Definitions & Categories; • Entrepreneurship and Economic Development; • Startup Process (From a raw idea to revenue generation); • Sport Industry & Entrepreneurship (With examples).		1st
Entrepreneurial Behaviours & Attributes	• Behavioural Characteristics of Entrepreneurs; • Creativity & Innovation (Improving Methods) • Opportunity Discovery (Idea Generation Methods); • Entrepreneurial Behaviour in Sport Industry (Examples).		2nd
Entrepreneurial Skills	Idea Development (Planning)	• Opportunity Evaluation (Feasibility Analysis; SWOT, Porter's 5 Forces)	3rd
		• Business Model Generation (Canvas)	4th
		• Business Plan Content.	5th
	Idea Implementation (Operation)	• Company Structure; • Team Building; • Company Registration Process in Malaysia and Universities' IP centres & private agencies; • Financial Resources: - Bootstrapping/Self Investment - Loans (Possibilities in Malaysia) - Venture Capitalists/Angel-Investors/Crowd funding	6th
		• Pricing; • Marketing Strategy: - Marketing Plan - Social Media Marketing • Case Studies in Sport Industry	7th
	• Financial/Accounting Literacy (Basics).		8th
	• Finding Mentor, Networking and Negotiation Skills; • Case Studies in Sport Industry.		9th
Common Knowledge	• Sport and Social Entrepreneurship; • Future trends in Sport Industry.		10th

The duration and the intensity of the course are the other important subjects which should be determined during the design phase. Generally, there are various

factors the can affect the duration and content intensity of a course, such as attendees' timetable, venue availability, university schedules, and project duration. On the other hand, the content intensity and course activities would vary according to time availability. According to scholars who studied the effect of duration of an intervention on its effectiveness, no significant effect was reported (Bangert-Drowns, Hurley, & Wilkinson, 2004; Chiu, 1998; Guskey & Pigott, 1988). Although, Chiu (1998) suggests for less intensive intervention design, Bangert-Drown et al. (2004) assert intensity does not affect an intervention's effectiveness (de Boer, Donker, & van der Werf, 2014). Having considered that and the time availability for conducting the intervention, the course outline was designed in line with course objectives, for 10 two-hour long sessions. However, later due to some limitations, the intervention had to be implemented in 7 sessions. Therefore to fit the designed curriculum into the new time table, some parts from entrepreneurial skills and self-efficacy were omitted.

Furthermore, along with the course outline, the teaching strategy was also drafted, mainly based on Gagné's (1985) theory of learning elements, and particularly based on the nine events of instruction (explained in Section 3.2.2). These nine points, utilized as the general guideline for all sessions during resultant implementation, are presented in Table 4.6 below:

Table 4.6: Teaching Strategy based on Gagné's Nine Events of Instruction

Gagné's Event of Instruction	Activity to Produce the Event
1. Gaining students' attention	At the beginning of each class, after greetings, the instructor engages students' attention by briefly describing the topics to be instructed in that session, using PowerPoint slides or an interesting video.
2. Informing the students of the objectives	The instructor will briefly explain the objectives of that session and briefly explaining the relevance of the topics and the objectives, followed by short explanation about the application of the topics in real world situation.
3. Stimulating recall of the students' prior knowledge	The instructor will ask few questions about the topic to help students recall their previous knowledge or experience of the topic. Then the instructor should make a relationship between students' previous knowledge and the knowledge they are going to acquire.
4. Presenting stimulus	The content will be delivered (based on the designed outline); slides, and relevant pictures and videos will be used.
5. Providing guidance for students	The presented content will be elaborated more with relevant examples or case studies to help students to better understand the topic and remember its application.

6. Eliciting students' performance	To help students internalise new knowledge/skills they will be asked to engage in some small practices, such as making their own examples of the topic being instructed and/or sharing their experiences about it. This also will exhibit their level of understanding about the topic they were instructed and then the instructor would know if they are ready to proceed to the next topic of the outline.
7. Providing feedback to students' performance	The instructor will give an immediate feedback to the students about the adequacy of their performance in the previous event, so they would know if they have learned the topic well; otherwise the instructor will re-explain that particular topic.
8. Assessing students' general performance	Upon completion of the teaching, students' understanding of the whole session will be assessed (through a one-question quiz or a small assignment) to see if the session's objectives have been achieved.
9. Enhancing retention and knowledge transfer	Instructor will make a relationship between the topic and practical use of the content. (This can be done either through the above-mentioned performance assessment as well, wherein the answer will be provided by the instructor in the next session with clear application of the concepts for using in real situations, or through a discussion with peer groups).

4.2.3 Evaluation and Reflection

The evaluation phase of this EDBR consisted of two cycles; one, through a pilot implementation of the intervention, and the other one, during and after the main intervention. After being assessed by EE experts and sport entrepreneurs, and before implementing the main intervention, the final draft of designed course outline and the teaching strategy were evaluated through a pilot implementation of the intervention. According to McKenney and Reeves (2013), implementing the intervention on smaller scales (depending on the size of the study, for few participants, few classes, few institutes etc.) is common in EDBR and it is a practical way to evaluate the final design of the intervention before conducting the main educational experiment. Upon completion of the pilot intervention, the course outline and teaching strategy were modified based on the obtained feedback. Afterwards, the main intervention was conducted in a pre-test/post-test quasi-experimental setting with control group. This section first explains the pilot intervention and then the main intervention of this EDBR, through which the first research question of this study will be answered.

4.2.3.1 Pilot Intervention

As explained in Section 3.2.4, five sport management students of Sports Centre, University of Malaya volunteered to participate in the pilot intervention. As McKenney and Reeves (2013) point out, during the evaluation micro-cycle, factors such as soundness, local viability, relevancy, feasibility and immediate effectiveness are studied. Therefore, the results of this phase could confirm the intervention design, provide a list of changes and modification in the design, or even indicate the need for re-designing.

The pilot intervention, which was the only iteration of this study, was conducted in Sports Centre, University of Malaya. Since the objective of this pilot was to observe

the students reactions and feedback about the topics and delivery method, no pre-test/post-test was carried out. However, participants offered their ideas and comments about the course, topics and contents and delivery method. Participants' feedback indicated that the designed outline was overly advanced in some parts, although the course had been designed as an introductory course. According to the participants, since they had very limited knowledge and skills about business and self-employment, some of the content in the course outline made them confused, distracted and stressed; the learning process was affected negatively. Therefore, the technical parts of topics related to startups, and some of entrepreneurial skills such as pricing, finance and accounting for small businesses were omitted from the course outline.

The other feedback was that students preferred learning about examples through videos compared to merely hearing about them; therefore more videos were included in the main intervention to the teaching material. Eventually, based on the feedback collected from students and insights obtained by observing the participants in the classroom, some necessary modifications were made in the course design. Table 4.7 presents the final version of the outline design of the course, i.e. the intervention design, used as the main design of the educational intervention of this EDBR.

Table 4.7: Classroom Lecture Topics by Session (Final Outline Design)

General Topics	Major Units of Instruction		Sessions
Introduction to Entrepreneurship	• Entrepreneurship Definitions & Categories; • Entrepreneurship and Economic Development; • Sport Industry & Entrepreneurship (with examples).		1st
Entrepreneurial Behaviour & Attributes	• Behavioural Characteristics of Entrepreneurs • Creativity & Innovation • Methods to increase creativity • Opportunity Discovery (Idea Generation Methods) • Entrepreneurial Behaviour in Sport Industry (Examples)		2nd
Entrepreneurial Skills	Idea Development (Planning)	• Opportunity Evaluation (Feasibility Analysis; SWOT Analysis)	3rd
		• Business Plan Contents	4th
	Idea Implementation (Operation)	• Company Structure • Team Building • Company Registration Process in Malaysia and Universities' IP centres & private agencies • Financial Resources - Bootstrapping/Self Investment - Loans (Possibilities in Malaysia) - Venture Capitalists/Angel-Investors/Crowd funding	5th
	• Finding Mentor, Networking and Negotiation Skills • Case Studies in Sport Industry.		6th
Common Knowledge	• Sport and Social Entrepreneurship • Future trends in Sport Industry		7th

4.2.3.2 Main Intervention (Enactment)

The main intervention of this study was enacted through an educational experiment. The intervention setting included a pre-test/post-test educational experiment with total of 52 participants; 26 students in control and 26 students in experimental group. It was not a randomised experimental design, since the intervention was carried out as the first 7 sessions of a mandatory subject. The demographic information of participants is

presented in Section 4.3.1. Only experimental group attended in the course and was exposed to the educational intervention of this EDBR. Each session was conducted based on the completed design (Table 4.7) and the contents were delivered following the teaching strategy, prepared based on Gagné's nine events of instruction (Table 4.6).

As mentioned in the previous chapter, this intervention/course was designed based on four constructs of Ajzen's (1991) TPB and had been initially scheduled for 10 sessions. However, due to some limitations it had to be reduced to 7 sessions, consequently and taking all aspects into consideration, particularly course objectives that were more concerned about EI and attitude towards entrepreneurship, some contents related to PBC were deleted from the course outline. Moreover, in order to reduce the influence of negative SNs on students who like to become an entrepreneur, one general practice in EEPs based on TPB is to group students with low SNs with those with high EI and SN for group projects and assignments, therefore raising their level of knowledge and self-confidence towards entrepreneurship. This was done as much as the timeline of the course allowed, however it was expected that the desired results were unlikely to be achieved in such a short time.

In addition, as part of the formative evaluation plan of the intervention implementation, at the end of the third session students were asked to write their feedback about the course and their classroom experience. The most noticeable positive feedback was that 15 students had found the delivery method simple, clear and understandable. Some students stated that despite their less than satisfactory level of proficiency in English, they could understand all the contents because the material was being repeated and were accompanied with examples. The next most repeated feedback was that they perceived the contents to be very useful for them. Seven students stated that the teaching slides were interesting and 6 students highlighted that the relevant

examples helped them understand the topics better. The next point was that 5 students expressed that they liked the videos shown during the class. In general, what could be perceived from these feedbacks was that the idea of using the nine events of instruction as the basis of the teaching strategy worked well. Some students mentioned that although the topics were completely new to them, they understand them, especially after hearing/watching the examples. However, apart from positive feedbacks, there was a relatively common negative feedback as well. 8 students mentioned that the class sometimes became boring. Although during the design phase the likelihood of boringness for new topics after a while was predicted and videos and pictures were included in the slides to avoid it, almost one third of the participants brought it up. Therefore, more class activities that would increase students' engagement in a more active and fun manner would be helpful.

Moreover, as formative evaluation helps to improve the quality of the contents, teaching and learning processes and students' classroom experiences, summative evaluation could help instructors to gauge students' understanding in the class. As Gagné et al. (2005) point out summative evaluation can assess the effectiveness of an instructional system. In this study, two summative evaluations were carried out. First, at the third session, a short class assignment was conducted. Through this assignment, which aimed to evaluate the effectiveness of creativity and idea generation topics, students were asked to identify a problem they see in their daily life or in sport industry with a solution that can be a product or service relevant to sport industry. The outcome was interesting, as almost all the students applied what they had already learned in their answers. There were some creative ideas among their responses. For example, one student came up with the idea of a restaurant for athletes and he used the cultural issues

to justify his idea. Another student wrote an idea about a small sports tours agency in her hometown, where there are plenty of hiking trails and traditional sports events.

The second summative assessment was on evaluation of a business idea. In the sixth session, I divided the students into groups of 3-4 and assigned each group a sport business idea, and asked them to evaluate its feasibility. Although some groups asked few questions while they were doing the assignment, their final reports were satisfactory. Before I give my feedback on their reports, I asked each group to evaluate another group's report. When they were evaluating their assigned business idea they had some sorts of attachment to that idea, so from their report it could be seen that they were more interested in finding the positive sides of the idea, rather than paying attention to some issues that could make the idea difficult to implement or unattractive to customer. However, by asking students to evaluate their classmates' report, they were placed in a situation that made them more critical. I found this activity very effective for conceptualising this important topic (i.e. idea evaluation).

4.3 Intervention Results

4.3.1 Demographic Analysis

A total of 52 students participated in this experiment, including 26 in experimental and 26 in control group. The descriptive analysis of demographic data, as presented in Table 4.8, shows the majority of the students were between 22-23 years old (71.2%, n = 37), male (61.5%, n = 32), Malay (69.2%, n = 36) and have grown up in a family in which none of their parents were self-employed (71.2%, n = 37).

Table 4.8: Demographic Characteristics of Participants (*N* = 52)

Demographic characteristics	Frequency		Percentage
	Experimental	Control	(Overall)
Gender			
Female	11	9	38.5
Male	15	17	61.5
Ethnicity			
Chinese	4	0	7.7
Indian	2	3	9.6
Malay	15	21	69.2
Other	5	2	13.5
Age			
20-21	1	4	9.6
22-23	20	17	71.2
24-25	4	4	15.4
> 25	1	1	3.8
Self-employed Parent(s)			
No	19	18	71.2
Yes	7	8	28.8

4.3.2 Pre-test Data (Research Conditions at Baseline)

Since the sample was non-randomised and the research was a quasi-experimental, it was important to know if the condition of both experimental and control group was balanced at the baseline; because significant variation of conditions on the covariates could influence the intervention effects in a way that they become confounded and

decisive conclusion on the effects of the manipulation become impossible (Field, 2013). First, to check whether there was any significant difference between students of two groups at the baseline, four categorical variables of age, gender, ethnicity and employment status of their parents were analysed by conducting a chi-square test. As shown in Table 4.9, there was no significant difference in any of categorical variables between control and experimental groups at the baseline.

Table 4.9: χ^2 - test with Fisher's Exact Test for Comparing Categorical Data between the Experimental and Control Group at Baseline

Variable	χ^2	***df***	***p***
Age	2.2	3	0.7
Gender	0.325	1	0.78
Ethnicity	6.171	3	0.1
Employment status of parent(s)	0.094	1	1

Second, in addition to comparing the categorical variables, as recommended by experts (See e.g., Field, 2013; Pallant, 2013) an independent samples *t*-test with 95% Confidence Interval (CI) was conducted to check if the level of dependent variables of this study in the experimental and control group had no significant difference before conducting the intervention. But prior to performing this test, to make sure that performing this parametric test is possible, two important assumptions of normality and homogeneity of variances were analysed. As presented in Table 4.10, although the sample size (N = 52) was relatively small, as the *p*-values for all variables were higher

than 0.05, the data was found to be normally distributed between two groups, and the groups were considered homogenous.

Table 4.10: Testing for Pre-requisite Assumptions of Independent Samples *t*-test for Pre-test Data (N = 52)

Variables	**Shapiro-Wilk's Test for Normality (*p*-value)**		**Levene's Test for Equality of Variances (*p*-value)**
	Experimental Group	**Control Group**	
EI	0.5	0.47	0.78
ATB	0.12	0.63	0.63
SNs	0.23	0.06	0.14
PBC	0.54	0.73	0.59

Since the pre-requisite assumptions were fulfilled, an independent samples *t*-test was conducted. As shown in Table 4.11, there was no significant difference between the scores of EIs in experimental group (M = 4.7, SD=0.86) and control group (M = 4.6, SD = 0.82); $t(50) = -0.3$, $p = 0.78$. Moreover, no significant difference was found in ATB among experimental group (M = 5.1, SD = 0.74) and control group (M = 5, SD = 0.66), with $t(50) = -0.2$ and $p = 0.81$. The SNs in two groups of experimental (M = 5.2, SD = 1.1) and control (M = 5.1, SD = .91) had also no significant difference, with $t(50) = -0.4$, $p = 0.7$. Lastly, according to the findings there was no significant difference in PBC of experimental group (M = 4.5, SD = 0.94) and control group (M = 4.3, SD = 0.98), since $t(50) = -0.8$ and $p = 0.42$.

Table 4.11: Pre-test Conditions of Study Variables and Independent Samples *t*-test for Comparing Variables at Baseline

Variables	Samples						95% CI for Mean Difference			
	Experimental Group			Control Group						
	M	***SD***	***n***	***M***	***SD***	***n***		***t***	***p***	***df***
EI	4.7	0.86	26	4.6	0.82	26	-0.53, 0.4	-0.3	0.78	50
ATB	5.1	0.74	26	5.0	0.66	26	-0.44, 0.34	-0.2	0.81	50
SNs	5.2	1.1	26	5.1	0.91	26	-0.66, 0.45	-0.4	0.7	50
PBC	4.5	0.94	26	4.3	0.98	26	-0.75, 0.32	- 0.8	0.42	50

Overall, having considered the results of chi-square test and independent samples *t*-test, it was concluded that both groups were statistically at the same level, since there were no significant differences between experimental and control group at the baseline. Therefore, both groups were considered balanced and further statistical analysis after completion of the intervention will be unlikely to be affected by confounding error.

4.3.3 Post-test Data

Upon completion of the course, the post-test data was collected. This section provides the study variables' scores after the intervention along with the comparison with pre-test data to determine if the possible changes were statistically significant. To investigate the effect of the intervention on Ajzen's (1991) TPB constructs, in order to

answer to the research questions 2-5, independent samples *t*-test was conducted. Then to identify the relationships between variables, bivariate Pearson correlation analysis was carried out. Eventually, a hierarchical multiple regression analysis was performed to identify the strongest predictor of students' EIs.

4.3.3.1 Evaluating the Effectiveness of the Course by Comparing the Post-test/Pre-test Results

In order to compare the post-test scores of study variables between experimental and control group, similar to previous section, an independent samples *t*-test was conducted. Prior to conducting the test, two important prerequisite assumptions of this test, i.e. Normality of the distribution and homogeneity of variances, were checked and as presented in Table 4.12, since the *p*-values of both Shapiro-Wilk and Levene's tests were greater than 0.05, the data was considered to be normally distributed and the groups were homogeneous; hence, both assumptions were met.

Table 4.12: Testing the Assumptions of Independent Samples *t*-test for Post-test Data ($N = 52$)

Variables	**Shapiro-Wilk's Test for Normality (*p*-value)**		**Levene's Test for Equality of Variances (*p*-value)**
	Experimental Group	**Control Group**	
EI	0.18	0.23	0.71
ATB	0.07	0.06	0.56
SNs	0.07	0.59	0.59
PBC	0.27	0.07	0.47

The results of independent samples *t*-tests indicated that after the intervention, amongst the experimental and control groups, out of four variables of Ajzen's (1991) TPB measured in this study, only two variables, EIs and ATB of students in the experimental group, changed significantly (Table 4.13).

Table 4.13: Post-test Scores of the Study Variables and Results of Independent Samples *t*-test for Comparing Variables in Two Groups

Variables	**Samples**						**95% CI for Mean Difference**			
	Experimental Group			**Control Group**						
	M	***SD***	***n***	***M***	***SD***	***n***		***t***	***p***	***df***
EI	5.7	0.73	26	4.7	0.91	26	-1.4, -0.48	-4.1	0.00[1]	50
ATB	6.0	0.67	26	5.1	0.76	26	-1.3, -0.54	-4.7	0.00[2]	50
SNs	5.3	0.94	26	5.0	1.04	26	-0.87, 0.24	-1.15	0.26[3]	50
PBC	4.6	0.87	26	4.3	0.77	26	-0.77, 0.14	-1.37	0.17[4]	50

Note: [1]d = 1.09. [2]d = 1.18. [3]d = 0.28. [4]d = 0.38.

According to the results, shown in Table 4.13, the students' EIs in the experimental group who attended in the course (M = 5.7, SD = 0.73) was significantly different than of those in the control group (M = 4.7, SD = 0.91) who were not exposed to the intervention, since $t(50) = -4.1$ and $p \leq 0.001$. The effect size for this analysis (d = 1.09) was identified to exceed Cohen's (1988, p.22) convention for a large effect,

which is d = 0.80. The graph in Figure 4.4 illustrates the changes of EIs at the baseline and after implementation of the course.

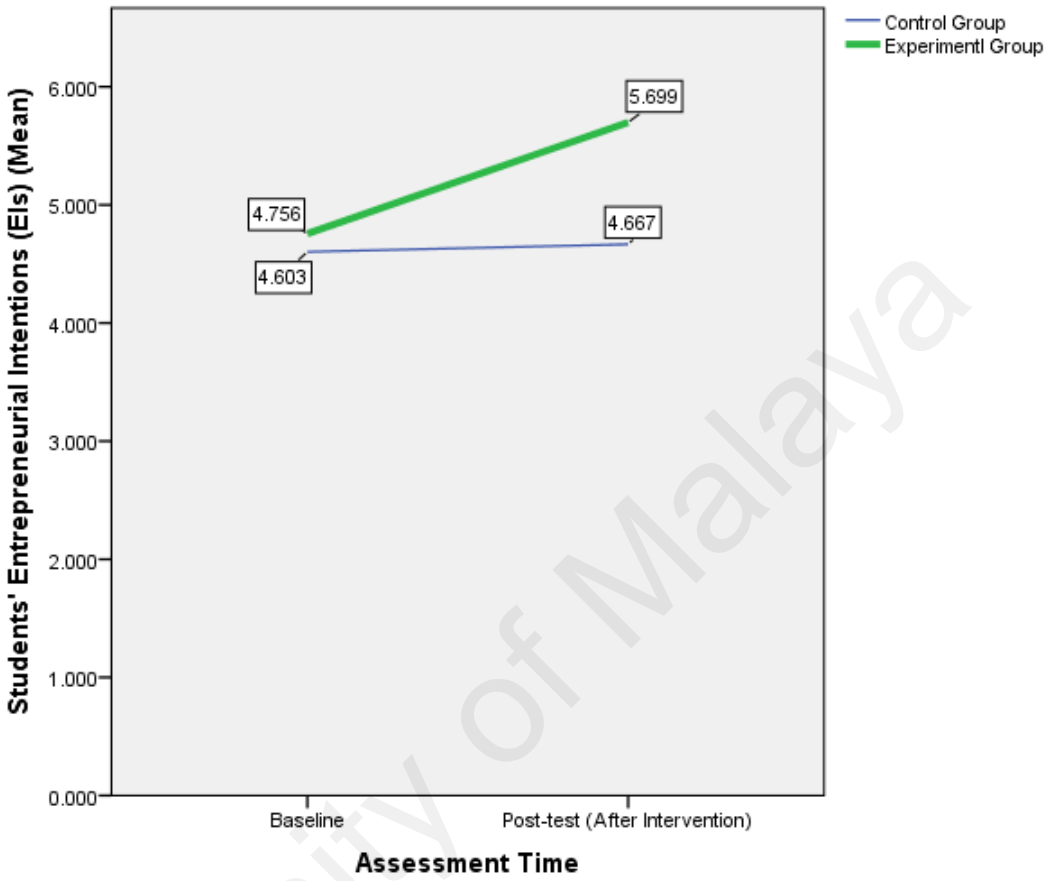

Figure 4.4: Students' EIs before and after the Course in Experimental and Control Group

In addition, the data showed upon completion of the intervention, the students' ATB in experimental group (M = 6.0, SD = 0.67) was significantly different than the students' score of ATB in the control group (M = 5.1, SD = 0.76), since $t(50) = -4.7$ and $p \leq 0.001$, and the effect size (d = 1.18) was large (see the graph in Figure 4.5).

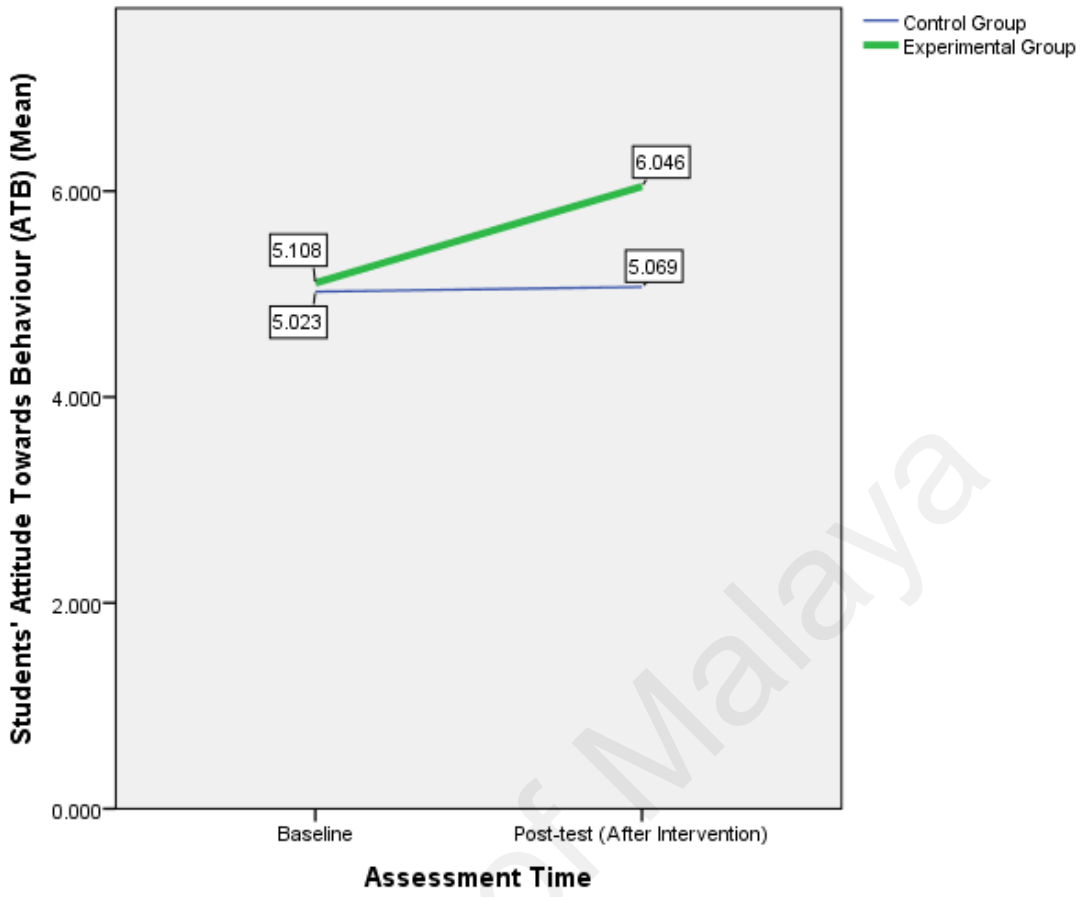

Figure 4.5: Students' ATB before and after the Course in Experimental and Control Group

However, the other two variables, i.e. SNs and PBCs, although increased after the course, they did not appear to be significantly different between the experimental and control group after the intervention. SNs measured in experimental group post-test data (M = 5.3, SD = 0.94) had no significant difference compared to the control group's (M = 5.0, SD = 1.4), since $t(50) = -1.15$ and $p = 0.26$ (≥ 0.05). Also, student's PBC in the experimental group (M = 4.6, SD = 0.87) and control group (M = 4.3, SD = 0.77) was identified as statistically non-significant, since $t(50) = -1.37$ and $p = 0.17$ (≥ 0.05). Figures 4.6 and 4.7 show the graph of SNs and PBC before and after the intervention where both variables slightly increased after the course, but that change was not statistically significant.

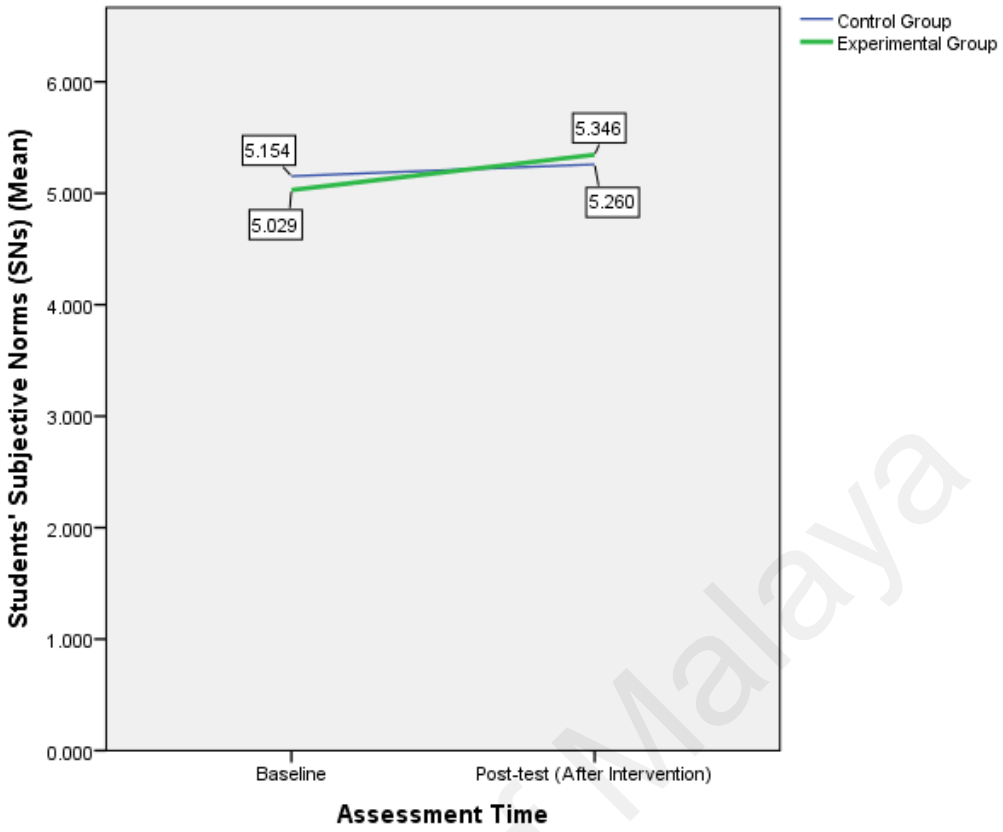

Figure 4.6: Students' SNs before and after the Course in Experimental and Control Group

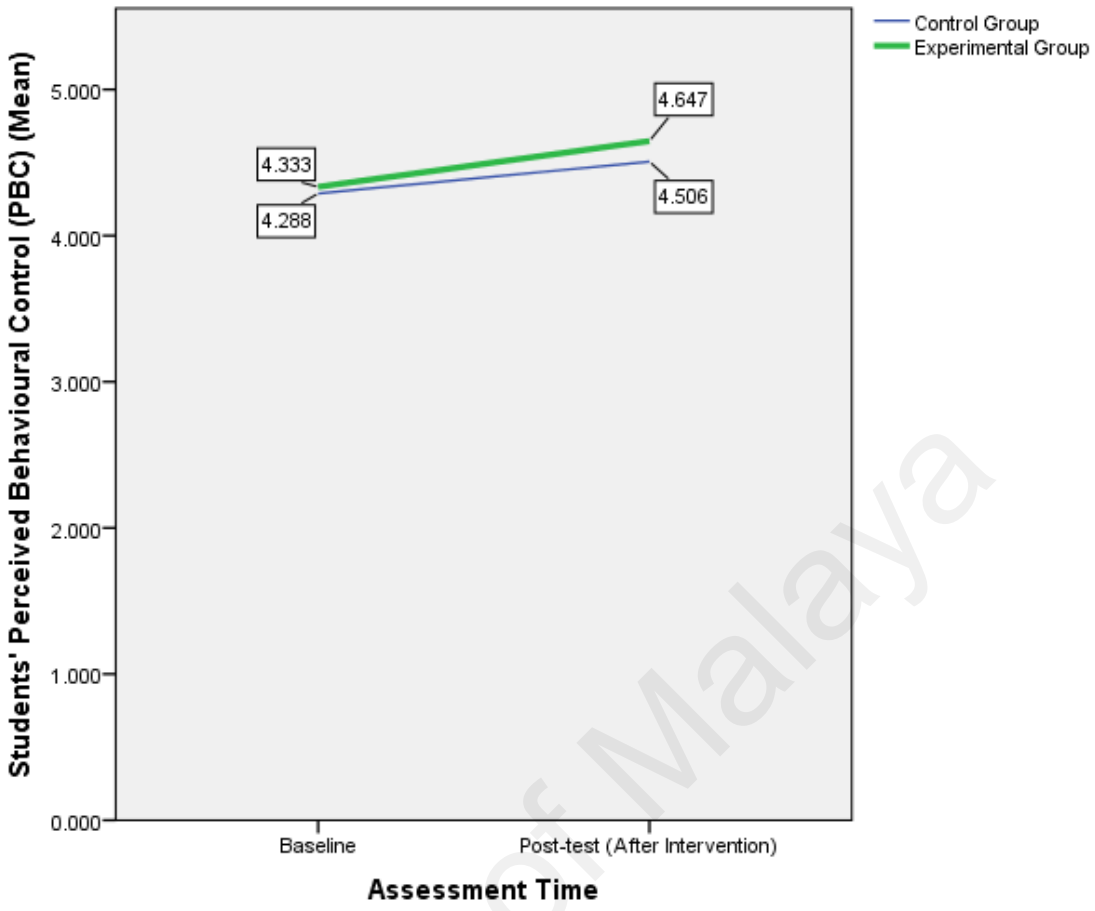

Figure 4.7: Students' PBC before and after the Course in Experimental and Control Group

Furthermore, to make sure that the changes in students' EI and ATB after the intervention was also statistically significant compared to the pre-test conditions, another independent samples *t*-test was conducted between the differences between post-test and pre-test EI and ATB values. Like previous times, normality and homogeneity of variances were analysed and since the *p*-values were all greater than 0.05 both assumptions were fulfilled, and I could proceed to the parametric test of independent samples *t*-test. The results, presented in Table 4.14, indicated that the EIs' score of the experimental group students increased after the intervention (M = 1.03, SD = 0.47) was statistically significant compared to the change in the control group's (M = 0.15, SD = 0.38), since $t(50) = -7.33$ and $p \leq 0.001$. Similarly, the results indicated that

the level of students' ATB that increased among the experimental group after the intervention (M = 0.98, SD = 0.52) was significantly different than the changes in the control group (M = 0.08, SD = 0.47), since $t(50) = -6.43$ and $p \leq 0.001$.

Table 4.14: Results of Independent Samples *t*-test Comparing the Pre/Post-test Differences in Two Groups

Variables	**Samples**						**95% CI for Mean Difference**			
	Experimental Group			**Control Group**						
	M	***SD***	***n***	***M***	***SD***	***n***		***t***	***p***	***df***
EI	1.03	0.47	26	0.15	0.38	26	-1.12, -0.64	-7.33	0.00	50
ATB	0.98	0.52	26	0.08	0.47	26	-1.17, -0.61	-6.43	0.00	50

4.3.3.2 Identifying the Correlations between Variables of the Study

To investigate the relationships between variables, in particular variables significantly correlated to EIs as the dependent variable and the primary constructs of Ajzen's (1991) TPB in the design process, bivariate Pearson correlation analysis was conducted (Field, 2013; Pallant, 2013). The results, presented in Table 4.15, indicated that all the three variables of ATB, SNs and PBC have statistically significant positive correlation with each other and with EIs.

Table 4.15: Bivariate Pearson Correlation Analysis Results (N = 52)

		EI	ATB	SN	PBC
EI	Pearson Correlation	1	.901**	.730**	.677**
	Sig. (2-tailed)		.000	.000	.000
ATB	Pearson Correlation		1	.744**	.715**
	Sig. (2-tailed)			.000	.000
SN	Pearson Correlation			1	.698**
	Sig. (2-tailed)				.000
PBC	Pearson Correlation				1
	Sig. (2-tailed)				

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

As shown in Table 4.15, EIs was significantly correlated with ATB, r = 0.901, p < 0.001, and according to Cohen (1988, p.79-81) with this value of the correlation coefficient, the correlation was large (Pallant, 2013). Therefore, positive changes in students' EI were correlated with increases in their ATE. Figure 4.8 illustrates the scatterplot of this correlation.

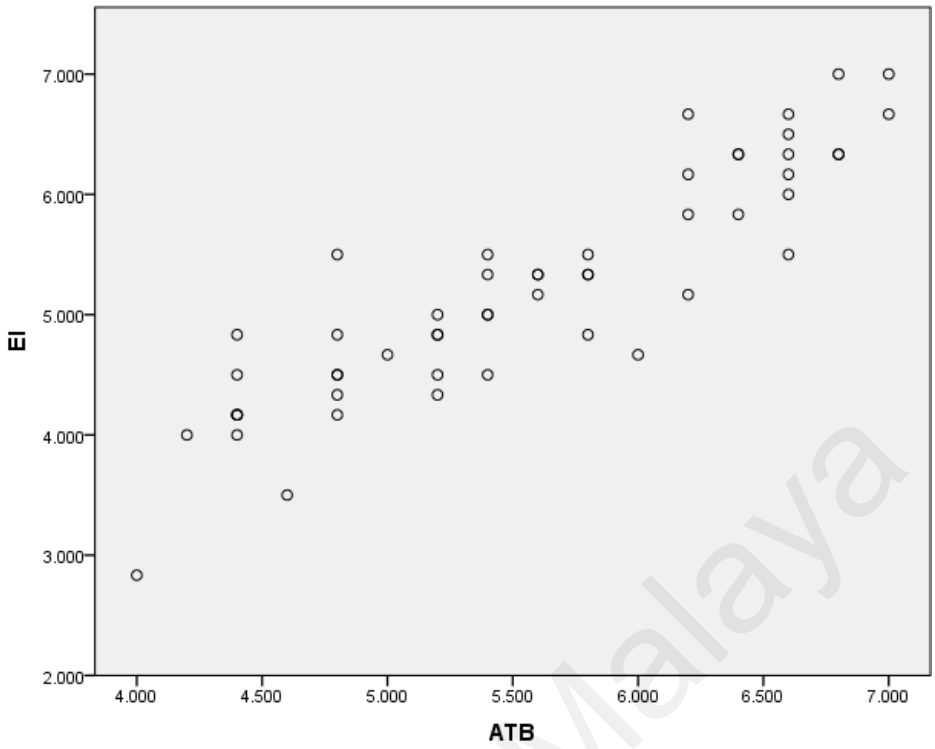

Figure 4.8: Correlations between EIs and ATB

Moreover, there is a large significant correlation between EIs and SN (r = 0.730, p < 0.001), and EIs and PBC (r = 0.677, p < 0.001). It means increases in EIs were largely correlated with increases in SN and PBC as well. Figures 4.9 and 4.10 show these correlations.

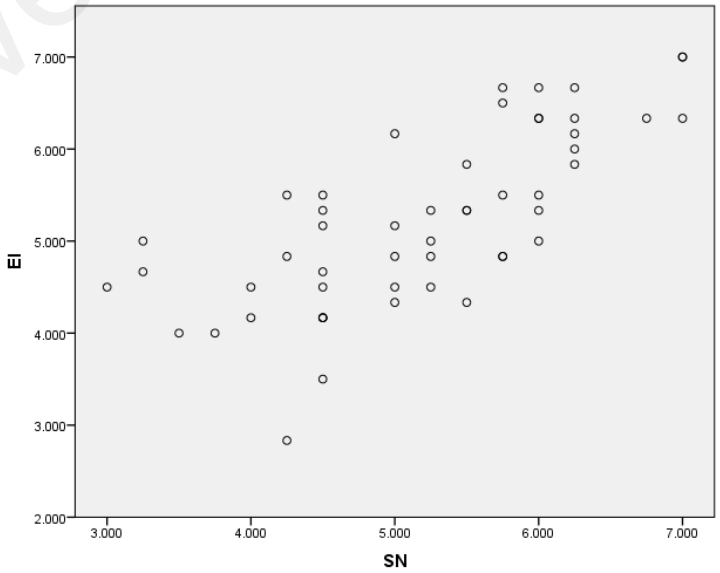

Figure 4.9: Correlation between EIs and SN

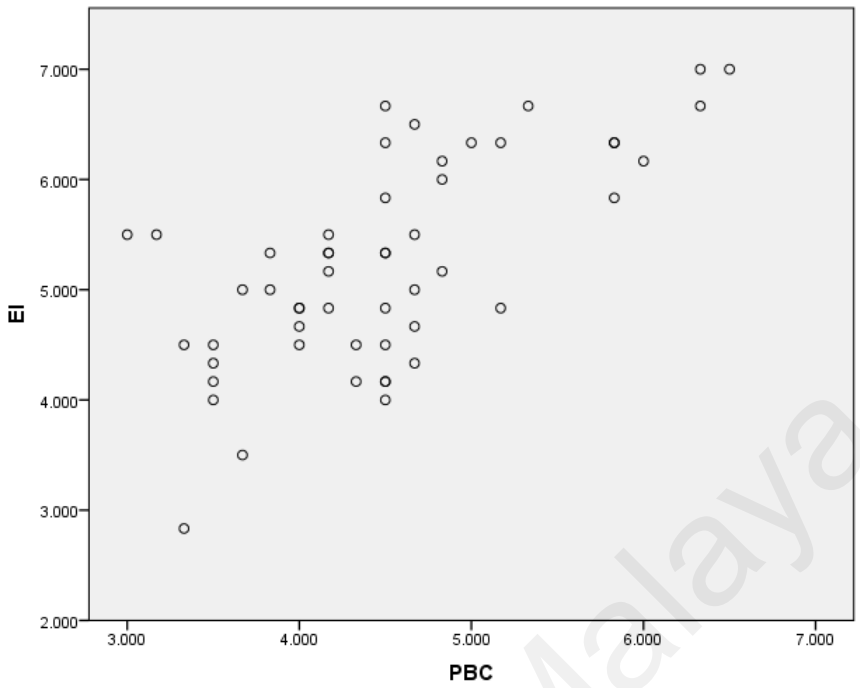

Figure 4.10: Correlation between EIs and PBC

4.3.3.3 Identifying the Strongest Predictor of Students' EIs

In order to explore the ability of independent variables in predicting students' EIs, and to identify the strongest predictor, having controlled for the other, as recommended by experts such as Field (2013) and Pallant (2013), hierarchical multiple regression analysis was conducted. Similar to many other statistical tests, there were some assumptions to meet before conducting the test.

As Pallant (2013, p.148) explains, in order to generalise the results of regression analyses, first a research must have a sufficient sample size. Although there are several different guidelines for calculating the minimum sample size, for social science studies about 15 subjects per each predictor are recommended by Stevens (1996, p.72). Since this study had three main independent variables, 52 subjects of this research were considered sufficient. In addition, Pallant (2013) states multicollinearity or singularity among independent variables "don't contribute to a good regression model" (p.148).

Since the correlation coefficients of all the independent variables of this study were less than 0.9, there was no threat of multicollinearity. No independent variable in this study was a combination of other independent variables; hence, no singularity threat was involved. The third and fourth assumptions were normality and homogeneity of variances, which were met and explained previously. Having fulfilled all the assumptions, a hierarchical multiple regression analysis was performed.

In order to consider the possible effect of students' age, gender, ethnicity and parents' status of employment, they were inserted as the first model. For the next model, the pre-test value of the three main independent variables, which along with students' EI were the bases of theoretical foundation of the course design (i.e. ATB, SNs and PBC), were set as the second block. For the third model, the post-test scores of ATB, SNs and PBC were inserted. The results showed Model 1 with $R^2 = 0.077$ and p=.431 is not significantly predictive of changes in the EIs, whereas Model 2 with $R^2 = 0.475$ and $p < 0.001$ and Model 2 with $R^2 = 0.842$ and $p < 0.001$ are statistically significant in predicting the dependent variable of EIs. Hence, it was concluded that the categorical variables of age, gender, ethnicity and parents' employment are not able to significantly predict the changes in EIs; thus, they were removed from the analysis and the next step was carried out with Model 1, included the pre-test values of ATB, SNs, and PBC, and Model 2 consisted of post-tests of them. Results are summarised in Table 4.16 below:

Table 4.16: Hierarchical Multiple Regression Analysis between Independent Variables at Baseline and Post-intervention (N = 52, Independent Variable = EI)

Model		***R* Square**	***P***	**Coefficient**	
				Beta (*ß*)	**Sig.**
1	(Constant)	0.440	0.00		0.15
	ATB (Pretest)			0.26	0.08
	SN (PreTest)			0.26	0.14
	PBC (PreTest)			0.23	0.15
2	(Constant)	0.825	0.00		0.62
	ATB (Pretest)			-0.09	0.32
	SN (PreTest)			0.09	0.46
	PBC (PreTest)			-0.08	0.58
	ATB (PostTest)			0.82	0.00
	SN (PostTest)			0.09	0.47
	PBC (PostTest)			0.09	0.55

The results indicated that both models, including separate sets of independent variables at pre-test and post-test were significantly predictive of changes in the dependent variable. However, having gone through the *p*-values of the variables, only ATB (pre-test) with $p = 0.08$ and ATB (post-test) with $p < 0.001$ were identified as statistically significant predictors of EIs. Hence, as the final step, they were inserted as the independent variables and another hierarchical multiple regression analysis was performed to identify the strongest predictor of EIs. The results indicated that the post-test ATB with $R^2 = 0.917$ and $p < 0.001$ was the strongest predictor of changes in the students' EIs, which explained 81.2% of its changes.

4.4 Follow-up Enquiry

The follow up inquiry was performed through an open-ended written interview. The questions were sent to students via email. They were asked to explain their current employment status, their willingness towards starting their own business, and share their experiences and thoughts about the obstacles they face to become self-employed.

Out of 26 students, 12 responded to the follow up inquiry interview. Among them, 7 were working, and only one of them was self-employed. The rest of them were looking for job, at the time of interview. 10 respondents stated that they like to be self-employed and have positive intention towards entrepreneurship; two of them showed negative response towards self-employment and mentioned they prefer to work in an organization.

When they were asked to explain what obstacles they have faced towards self-employment, the most common answer was lack of financial resources or difficulties in acquiring them. This was also pointed out by sport alumni during the needs assessment phase. However, when they were asked whether they have ever had any business idea or if they had, did they start to develop the idea, the answer was negative. This is a common issue among young people with high EIs who don't know where to start or they are afraid to do it. In non-academic publications in the entrepreneurship field, these type of young people are sometimes called as "wantrepreneurs", who want to be an entrepreneur but they do not take the first step because of various reasons; including being afraid of insufficient financial resources. Although this problem had identified during the design phase, and one session had allocated for introducing different methods of obtaining financial resources, and more importantly prior to that the important of idea generation had been instructed, still the high priority of financial resources for young graduates were evident.

The second setback to start a business was stated as the lack of business knowledge and skills and self-confidence. Three respondents believed they lack enough experience to become self-employed. Two of them highlighted that their risk-taking behaviour is low and they have problem with networking. Other responses included lack of communication skills, marketing skills, and ability to find business ideas, lack of stress management skills and fear of competing (which can also be categorized as some sort of self-confidence problem). This showed the importance of an advanced entrepreneurship course, wherein students can be trained and equipped with basic and even advanced business skills and knowledge. Interestingly, similar to sport alumni participated in the needs assessment phase, when I asked if they are willing to attend in an advanced sport entrepreneurship course, they all responded positively.

4.5 Summary

This chapter included two broad sections. In the first section the details of designing the intervention, which was a sport entrepreneurship course were explained. It included three phases, namely analysis and exploration phase, with literature review and needs assessment analysis from different stakeholders of sport industry in Malaysia, design and construction, wherein the outline of the course along with the teaching strategy were drafted and finalised, and finally evaluation and reflection that included the intervention implementation. By the end of this section the first research question of this study, which was about the characteristics of a standard and effective sport entrepreneurship course in Malaysia was answered.

The second section included the statistical analyses of intervention data, aimed to answer the research questions 2, 3, 4 and 5. The results indicated that the EIs and ATB of students who attended in the course increased significantly after completion of

the intervention. However, although students' perceived SNs and PBC increased slightly after the course, those changes were not statistically significant.

In addition, a follow-up enquiry was carried out six months after implementation of the intervention, to obtain students feedback after their graduation and quest for finding jobs or starting new business; in order to improve the quality of the course outline and content for future purposes. The outcomes indicted that students lacked business skills, self-confidence and their first setback was perceived as lack of financial resources.

CHAPTER 5: DISCUSSION AND CONCLUSIONS

5.1 Summary of the Study

This is the fifth and final chapter of this study. This multidisciplinary study was the first EDBR in the fields of sport, entrepreneurship and education. The problem that initially inspired this study was the significant number of unemployed graduates, and low self-employment among sport graduates. Taking the importance of entrepreneurship for both individuals and the society into account, the insignificance number of self-employed sport graduates is worrying. Having considered the importance of education on producing new entrepreneurs and/or improving them, literature shows there is a big gap for studies on the systematic process of designing entrepreneurship course and programmes; specially for non-business students and in particular for sport programmes. Therefore, this study was undertaken with the primary objective of designing a standard and effective sport entrepreneurship course for sport students in Malaysia.

With the targeted problem and the main objective of the study in mind, the most suitable method to conduct this study was EDBR. Moreover, to take advantage of quantitative methods to evaluate the course and improve its effectiveness, the intervention settings included pre-test/post-test experiment with control group. The course outline was designed based on the literature and the needs assessment outcomes, that was conducted within local stakeholders of sport industry in Malaysia; including sport alumni, sport authorities, sport entrepreneurs and business owners, and sport management academicians. The outcomes of the needs assessment indicated that this course should be a general introduction of entrepreneurship and the basic knowledge about entrepreneurship in sport industry, with a focus on the local context; this approach is recommended by several experts (e.g., Curran & Stanworth, 1989; Fayolle et

al., 2006; Gorman et al., 1997; Liñán, 2004; McMullan & Long, 1987). The Ajzen's (1991) TPB shaped the theoretical foundation of the course design, and the teaching strategy was prepared following Gagné's (1985) Theory of Learning, in particular nine events of instruction. The design process included one cycle of iteration; after it was implemented as a pilot intervention. The completed design formed the final course outline, which eventually was consisted of seven sessions. The intervention setting was a pre-test/post-test quasi-experimental with control group; both comprised of students from Sports Centre, University of Malaya.

Upon completion of the course, the post-test data was collected and the effects of the course on the students' EIs (as the primary construct of the study), ATB, SNs and PBC were statistically analysed. Post-intervention results indicated that the EIs and ATB of students who attended the course increased significantly compared to the students in the control group, who were not exposed to the intervention. In addition, although the SNs and PBC of students in the experimental group increased, they were not identified as statistically significant. Further on, a follow-up enquiry was conducted six months after the intervention and students' insights, who by then were fresh graduates, were obtained.

In this chapter, I will share some of my experiences from the design and implementation phases, and will also discuss the statistical analyses results based on available literature. The limitations and delimitations of this study are explained in this chapter as well, followed by the implications of this research for researchers and practitioners, and later some suggestions for future research are provided.

5.2 Discussion on the Design Phase

In EDBRs, reporting and explaining the outcomes is as important as the design process itself. In fact, in DBRs, generally, researchers aim to solve a real world problem or at

least contribute to providing a solution for specific problem, therefore it should be reported in a way that other researchers or stakeholders who are involved with the same problem can benefit from it. As Collins, Joseph and Bielaczyc (2004) point out design-based researchers need to include all the details, including objectives and elements of the design, educational settings, details of each step, results and findings, and the experiences they learned throughout the whole project. The whole details from the beginning of the design phase until the implementation and follow-up enquiry were explained in the fourth chapter. In this section I will briefly discuss how the course outline was developed and then share some of my practical experiences obtained during this study.

The basic element, under which all other components of a course or a programme are prepared, designed and developed, is the course or the programme's objective(s). This has been recommended by several EE scholars (e.g., Brockhaus, 1992; Fayolle et al., 2006; Garavan & O'Cinneide, 1994; Liñán, 2004) and EDBR experts (Bell, 2004; Bruner, 1999; Klein, 1991; McKenney & Reeves, 2013). Following the Curran and Stanworth's (1989) classification of EE objectives and based on the needs assessment outcomes I came to this conclusion that the main objective of this course should be limited to 'awareness towards entrepreneurship and self-employment'; accordingly, I started to draft the course outline.

After introducing the concept of entrepreneurship, what entrepreneurs do and their important role on economic development, opportunity recognition, as the first entrepreneurial skill was instructed. According to EE experts (e.g., Ardichvili, Cardozo, & Ray, 2003; Shane & Venkataraman, 2000) opportunity recognition is the core of entrepreneurship and it is among the most important skills an entrepreneur should possess. Following the same line, Sambasivan, Abdul, and Yusop (2009) carried out a

study with 1275 small and medium enterprises in Malaysia, and found out that opportunity recognition skill performs as a pure mediator for venture performance, and it influences the enterprise activities. This issue was brought up in one of my interviews with a local entrepreneur, who strongly believed one of the main reasons behind young entrepreneurs' failure is pursuing wrong or not attractive business ideas. This topic formed the basis of more than 50% of the course; from definitions, tools and methods for improving creativity and innovativeness and idea discovery opportunity discovery (idea generation methods), to idea evaluation and development and implementation; as recommended by several EE experts (e.g., Lumpkin et al., 2004; Neck & Greene, 2011; Sarasvathy, 2008). However, time constraints and idea implementation-related topics not being among the main objectives of the course reduced the coverage of said topics. One of the important issues during the course instruction was using real world and sport-related examples, since it could significantly improve the learning process. Local examples were employed during the instruction as much as possible.

One of the valuable outcomes of EDBRs, apart from the completed design, is the practical experiences that design-based researcher achieves throughout the research, especially through planned and unplanned events in the resultant intervention, activities and processes that take place during the enactment. As Denyer et al. (2008) state design science researchers in the general field of management aim to solve both improvement problems and construction problems, by developing practical knowledge to design intervention. Indeed, these knowledge and experiences shape the practical outcomes of an EDBR. In this study there were such experiences that are worthy of sharing.

1. In designing the course outline and choosing teaching material, cultural issues are very important (Giacomin et al., 2011; Liñán, Fernández-Serrano, & Romero, 2013; Moriano et al., 2012). Lim and Envick (2013), who conducted a cross-cultural research

between university students of several countries, including 99 Malaysians, to study the role of various cultural dimensions on entrepreneurial orientations, state that "identifying the role culture plays is essential to develop successful EE practices to reflect on the unique cultural strengths and weaknesses of each national culture". I experienced the importance of taking cultural issues into account in different phases of this study; during need analysis, while interviewing some local stakeholders of sport industry in Malaysia, during pilot implementation of the intervention and noticeably during the main intervention implementation.

For instance, one common issue was the limited knowledge about and low confidence in local successful entrepreneurs, which in fact was one of the reasons that starting a business in sport industry sounds very difficult to many of the students. But the moment I introduced a local entrepreneur and briefly shared his/her biography with the students, or played videos about young Malaysian entrepreneurs and introduced their businesses, I saw the enthusiasm and excitement heightening among them. So in addition to introducing the local small successful businesses, I included more examples of local entrepreneurs.

The other cultural attribute I encountered during needs assessment was the tendency towards governmental jobs among some alumni, in addition to my own observations from some of the students. While I was interviewing a local entrepreneur, she also acknowledged this attitude saying "this is what government didn't foresee when instead of educating children and encouraging students to follow their dreams and ideas, provided them so many incentives to be employed in governmental organizations…fixed salary, more holidays, less risky and no failure". Therefore, I found it necessary to spend some time on explaining the advantages of being self-employed, with real world examples. In addition, my classroom observations and

intervention results indicate that more attention needs to be paid to the topic of SNs in EEPs. Having based the theoretical foundation of the course on Ajzen's (1991) TPB, SN was one of the four elements I was focusing on during the design phase; literature also shows the important effect of SNs on graduates' decision on their future job (e.g., Choy, Kuppusamy, & Jusoh, 2005). However, the post-test results showed that this topic needs more concentration and practice in such courses.

2. In the context of EE, lack of self-confidence is one of the very common problems among students. This problem appears to be more evident among non-business students. Sport students who attended in this intervention were no exception. Apart from those who stated that they prefer to have a safe job (which, indeed, indicated their lower level of risk taking behaviour), there were a number of students who showed interest in becoming entrepreneurs, yet admitted that they fear failure. Having identified the issue during the needs assessment phase, I included the topic and some solutions to tackle this problem into the course outline. However, there were several unplanned and unpredicted encounters during the main intervention that convinced me to allocate more time to this topic. For example, in the first feedback enquiry one student wrote that despite wanting to participate in the discussions, he/she is afraid of being mocked by others. Another student wrote that he/she has several business ideas but thinks nobody will listen to him/her. Classroom observations also gave me this sense that the majority of the students fear failure. One possible reason behind this low confidence might be the negative and wrong attitudes towards sport programmes, looking down on them, especially sport management, in comparison to other majors (such as engineering or medical degrees). I found this issue critically important and I am certain that this should be approached with great sensitivity and attention.

3. Students were generally concerned about financial resources. Aside from highlighting the critical role of a feasible and attractive business idea in acquiring financial resources, I had included various government supporting policies and initiatives and different methods for finding financial investments. Yet, they were still talking about this issue from time to time. This, however, was not a surprise as it is a common issue. One way to reduce this fear of not having enough financial resources is to enhance their business skills, especially by introducing free or low costs techniques of undertaking business-related activities. As mentioned earlier, due to some limitations three sessions of the class had to be taken off the schedule; sessions that were more related to PBC and business skills. However, my experiences from this intervention, students' feedback and also the literature and other researchers' experiences, reflect that one entrepreneurship course/subject is certainly not sufficient. If the idea is really to prepare students to start their own business, at least two subjects, one introductory and one for teaching the entrepreneurial skills, should be offered.

4. I observed the positive effect of using video examples during the pilot and main intervention. I used different mediums while I was trying to explain different topics and concepts, and the most effective one was video. Students really liked the video examples to the extent that many of them mentioned it during the class and also in their written feedbacks. For some topics it was difficult to find relevant videos on the Internet; however, the effectiveness of video examples convinced me to spend more time to find relevant videos.

5. During the design phase, I used some topics, concepts and/or examples from the subjects students in the experimental group had attended previously in their programme (such as sport media, human resource management, anatomy, psychology, etc.) to contextualise some entrepreneurial skills with what students had learned. I noticed that

most of them could somehow recall those concepts from previous semesters, showing that they learnt said subjects well; however, before mentioning those examples, they could not link the concepts they had learnt in those courses, to business. In other word, they did not perceive their non-business related subjects as a potential knowledge/skills to start a business or at least generate a business ideas. This is an important issue, which has been discussed by number of scholars under the broad concept of 'entrepreneurial university' (e.g., Clark, 2001; Etzkowitz, Webster, Gebhardt, & Terra, 2000). As Etzkowitz et al. (2000) state, "the separation of teaching, research and business activities becomes less sustainable". This is an important topic for future research, especially in Malaysia. However, as far as this study is concerned one useful strategy to increase efficacy could entail a twofold approach: first, offering an introductory sport entrepreneurship course in the first semester, so students would gain the basic level of entrepreneurialism and hopefully be able to link concepts from other subject to business ideas. Second, providing entrepreneurship course or workshop for other lecturers, so they also would be able to incorporate entrepreneurial spirit in their classrooms while teaching.

6. As previously explained in detail, I employed Ajzen's (1991) TPB and nine events of instruction (Gagné & Briggs, 1974) as the theoretical foundation of the course and main structure of the teaching strategy for this course. Although I did not analyse the effectiveness of them separately, as it was not among the objectives of this research, what I personally experienced was that this nine guidelines gave a good and effective discipline to the delivery of course contents and the classroom.

5.3 Discussion on the Intervention Findings

The quantitative analysis of this research tried to investigate the effectiveness of the course based on the four variables of TPB (Ajzen, 1991). According to Barab (2014),

describing the researcher's findings of an EDBR, in an understandable way in which others could recontextualise them to their local situations is challenging, thus balancing the qualitative outcome with quantitative data sounds necessary. Therefore, investigating the effect of EE on Ajzen's (1991) TPB's constructs was included in the research objectives. The following sections briefly discuss the founding of the statistical analysis conducted in this research.

5.3.1 Demographic Analysis Results

In the main intervention of this study 52 students participated and formed the experimental and control groups. The majority of them were between 22-23 years old (71.2%, n = 37), male (61.5%, n = 32), Malay (69.2%, n = 36) and have grown up in a family in which none of their parents were self-employed (71.2%, n = 37). Since the study was quasi-experimental, a chi-square test was performed and results indicated that there were no significant differences between two groups in terms of categorical variables of age, gender, ethnicity and employment status of their parents at the baseline. Consequently, despite the sample being non-randomised, the comparison in demographic characteristics showed that the intervention started with no statistical differences between them.

5.3.2 The effect of Sport Entrepreneurship Course on Students' EIs

The primary quantitative objective of the course was to increase the students' EIs. As presented in the previous chapter (see Section 4.3.3), the post-test results showed EIs of students who attended in the course increased significantly with a large statistical effect (d = 1.09). Having gone through the entrepreneurship education-entrepreneurial intentions literature, there are studies that show the same effect of EE on EI in different fields such as business studies, social science and engineering (e.g., Basu & Virick,

2008; Chrisman, 1997; Clark et al., 1984; Fayolle et al., 2006; Frimpong, 2014; Kolvereid & Moen, 1997; Kourilsky & Esfandiari, 1997; Lima et al., 2015; Liñán et al., 2011a; Maresch et al., 2016; Menzies & Paradi, 2003; Pihie, Akmaliah, & Bagheri, 2009; Singh & Verma, 2010; Rauch & Hulsink, 2015; Souitaris et al., 2007; Wurthmann, 2014; Zhang et al., 2014).

Moreover, Bae et al. (2014) conducted a meta-analysis on EE-EI publications, and found out that there is a significant but small relationship between EE and EI. Bae and colleagues also argue that the majority of entrepreneurship courses they analysed were elective and students who attended in such courses had already some tendencies towards entrepreneurship; therefore, such courses cannot make significant change on their EIs. However, there are studies that found no significant improvement in students' EIs after exposure to an EEP, including Oosterbeek et al. (2010), von Graevenitz et al. (2010), Chen et al., (2015) and Fayolle and Gailly (2015). One possible reason that was explained by EE researchers was that many students who attend in EEPs will understand about the difficulties and challenges of self-employment and come to this conclusion that they are not suitable for an entrepreneurial adventure (Chen et al., 2015; Olomi & Sinyamule, 2009; Oosterbeek et al., 2010). Moreover, Fayolle and Gailly (2015) state that it might be the shortness of the EEP (their intervention was implemented in a three-day workshop) that did not make significant impact on students' EIs.

5.3.3 The effect of Sport Entrepreneurship Course on Students' ATB

Similar to EI, the students' ATB (i.e. their attitude towards entrepreneurship) had a significant positive change after the intervention with a large effect size (d = 1.18). This result was consistent with numerous studies in this field (e.g., Athayde, 2009; Basu & Virick, 2008; Fayolle et al., 2006; Kautonen van Gelderen, & Fink, 2015; Kolvereid &

Moen, 1997; Peterman & Kennedy, 2003; Pihkala & Miettinen, 2004; Rauch & Hulsink, 2015; Souitaris et al., 2007; Tkachev & Kolvereid, 1999). However, there are studies that found the opposite. Packham, Jones, Miller, Pickernell, & Thomas (2010) conducted a comparative study between students in France, Germany and Poland, and identified that EE did not have significant effect on ATB of French and German students. Although their study did not investigate the reason, their observations suggested that gender and particular industrial or national/regional setting may moderate EEP effectiveness. Moreover, Karimi, Biemans, Lans, Chizari, and Mulder (2016) report that their results showed no significant effect of EEP on students' ATB. They believe high level of students' ATB at the beginning of the programme could be one reason this factor didn't change significantly after the course. In addition, results of another study published by Hamzah, Yahya, Sarip, and Mohd Adnan (2016) show no significant difference in post-test ATB of participants of the experimental group in an EEP, who had recently graduated. The authors point out the recentness of graduation as a possible reason, as the graduates are ready to enter the market and believe financial resource is a big setback to start a business. However, the authors further point out that during the interview the participants showed interest towards the course and described it as "the initial 'spark' towards an entrepreneurial culture."

As explained previously, this course was designed with the primary objective of introducing the basics of entrepreneurship to sport students. Meanwhile, the TPB (Ajzen, 1991) argues that change of attitude towards a certain subject in a way that increases the desire of the individual towards it, would lead to an increase in their intention towards undertaking said subject as well. As numerous EE scholars have pointed out (see, e.g., Autio et al., 1997; Krueger et al., 2000; Pruett, Shinnar, Toney, Llopis, & Fox, 2009; van Gelderen & Jansen, 2008) if someone has a positive

assessment of the potential outcomes of starting a new business, his/her attitude towards the idea would be more favourable too, and as a result he/she would have a stronger intention to start a new business (Maresch et al., 2016). Therefore, EE should be designed to improve students' evaluation of entrepreneurship, with an emphasis on positive aspects of entrepreneurship so that it awakens the desire to start a business in the students (Rauch & Hulsink, 2015). For instance, according to Souitaris et al. (2007) emphasizing the passions and emotions that are associated with entrepreneurship can improve attitudes towards it. Thus, in this study, an attempt was made to introduce the concept of entrepreneurship, its benefits for the individual entrepreneurs as well as for their countries and for the world, the implications of entrepreneurship in sport industry (both locally and globally), along with opportunities for students in the market, and its benefits for them as future graduates, as well as for the economic development of their country.

5.3.4 The effect of Sport Entrepreneurship Course on Students' Perceived SNs

The intervention outcomes showed the students' perceived SNs did not change significantly after the course, although it had a small improvement compared to the baseline condition. This finding was in line with what Kreuger et al. (2000), Autio et al. (2001), Walter and Dohse (2012), Hui-Chen, Kuen-Hung, and Chen-Yi (2014) and Hamzah et al. (2016) have reported. However, it is contrary to some of previous studies (e.g., Douglas & Shepherd, 2002; Kolvereid, 1996b; Souitaris et al., 2007).

According to Liñán and Chen (2009), traditionally SNs showed weak role in the Ajzen's (1991) TPB, but the reason was not so clear. There are even studies that employed TPB while omitting SN (e.g., Peterman & Kennedy, 2003; Veciana, Aponte, & Urbano, 2005). As Liñán and Chen (2009) assert, literature is still incapable of explaining a single proven method of improving SNs perceived by students and people

who have intention to start a business. However, placing students in a group along with entrepreneurial-minded students with high level of risk-taking behavior during assignments and projects is one way to potentially increase their SNs. Another contributing factor is to invite successful entrepreneurs as role models to the classroom (Karimi et al., 2016; Mueller, 2011; Souitaris et al., 2007; Weber, 2012).

5.3.5 The effect of Sport Entrepreneurship Course on Students' PBC

The next independent factor from Ajzen's (1991) TPB investigated in this study was students' PBC. The post-intervention results showed no significant change in the students' PBC; although, similar to SNs, it had small improvement after the course. Many studies show opposite results (e.g., Bandura, 1986; Hollenbeck & Hall, 2004; Pihie & Bagheri, 2013; Wilson et al., 2007), however, there are studies that report EE did not have significant impact on the students' self-efficacy or PBC (e.g., Fayolle et al., 2006; Hmieleski & Baron, 2008; Oosterbeek et al., 2010; Walter & Dohse, 2012). von Graevenitz et al. (2010) explain that in many studies positive relationships between EE and PBC were identified, however, sometimes exposure to EE make students think that they are not capable of running business or being self-employed. Similarly, in a recent study Piperopoulos and Dimov (2015) highlight this possibility as well. The students' feedback at the end of the course and in the follow up interview approved this issue. The majority of the students explained that they don't know how to start a business. However, since the primary quantitative objective of this course was to increase the students' EI, and due to the time constraints, some contents related to entrepreneurial skills were omitted from the course outline, it was somehow predictable that the self-efficacy of students may not increase. This, again, shows the importance of having multiple entrepreneurship courses with different objectives in the curriculum;

courses that would increase students' entrepreneurial awareness and also entrepreneurial skills.

5.3.6 ATB as the Strongest Predictor of EI

Bivariate Pearson Correlation results showed that all variables are correlated to each other. According to the results, the largest correlation was between EIs and ATB (r = 0.901). The findings indicated that improvement in ATB, SNs and PBC are statistically correlated to positive changes in EIs. Having said that, hierarchical multiple regression analysis identified ATB as the strongest predictor of EIs, which explained 81.2% of its changes. This result was consistent with Bagheri and Pihie's (2014) findings; they also conducted their study in Malaysia and found attitude toward entrepreneurial behaviour as the strongest factor that influences EIs among males and females. However, Choy et al. (2005) identified SNs, and Autio et al. (2001) and Karimi et al. (2016) found PBC as the strongest predictor of EIs.

Taking this finding into account, if an introductory sport entrepreneurship course is designed to increase students' EIs while improving their awareness towards the whole concepts of entrepreneurship, focusing on the topics that could change students' desire toward entrepreneurship may lead to the target objectives. However, EE, like many other social science subjects, is difficult to put in such structures. In other words, in EEP topics and sub-topics should be designed and selected based on students' needs and other factors such as cultural issues. Therefore, sole focus on the strongest predictors like ATB or SNs should not result in neglecting other important and essential topics.

5.4 Discussion on Follow-up Findings

The follow-up was obtained six months after the course, from members of the experimental group who were fresh graduate at the time of enquiry. Out of 26 students

who attended the course, 12 responded to the follow-up questions. Among them, 7 were working, and only one was self-employed; the rest were looking for job, at the time of interview. 10 respondents stated that they like to be self-employed whereas two of them expressed negative intention toward entrepreneurship and mentioned they do prefer to work for an organization. The follow-up findings showed financial issue was the main concern for sport graduates preventing them from thinking about starting their own businesses. Several previous empirical studies have also identified positive relationship between financial resources and the decision towards self-employment (e.g., Evans & Leighton, 1989; Fairlie & Krashinsky, 2012; Frid, Wyman, Gartner, & Hechavarria, 2016; Gentry & Hubbard, 2004; Lofstrom & Bates, 2013; Quadrini, 1999). Jones and Jones (2014) identified students' debt and business startup cost were the key setback to immediate graduate self-employment. Moreover, Sieh (1985) conducted a study among Malay small and medium industries entrepreneurs and found that their most important problem in Malaysia concerned finance and difficulties of marketing.

Furthermore, some of the graduates explained that although they like to be self-employed, they do not know how to find a business idea and more importantly how to implement it. It is consistent with what previously was reported by some researchers pertaining the lack of market knowledge and business and entrepreneurial competencies are crucial obstacles towards successful self-employment (e.g., Kiggundu, 2002; Longenecker, Simonetti, & Sharkey, 1999; Munoz, Welsh, Chan, & Raven, 2014). This showed the importance of an advanced entrepreneurship course, wherein students can be trained and equipped with basic and even advanced business skills and knowledge. Interestingly, similar to sport alumni participated in the needs assessment phase, when I asked if they are willing to attend in an advanced sport entrepreneurship course, they all responded positively.

Finally, it should be expressed that what I noticed through the follow-up was in line with my observations at the end of the course, which was the positive approach towards the idea of self-employment and broader, the importance of entrepreneurship for them as individuals and for the society. It was the main objective of this course, to introduce the entrepreneurship concept and to increase EIs of participants. In the topic of effectiveness evaluation of an EEP, which was one of the objectives of conducting follow-up, the worst-case scenario is to counting only the number of businesses that students or participants of that course created later. Having considered the various aspects involved with starting a new venture, from business skills to certain behaviours such s risk-taking, self-confidence and perseverance, and difficulties of creating even a small business in different sectors, limiting the effectiveness assessment of an EEP to the number of launched business seems unwise (Fayolle & Degeorge, 2006).

5.5 Limitations and Delimitation of the Study

As with most research studies, there were some limitations and delimitations here as well that should be acknowledged. First, this study was an EDBR, in which the completed design was implemented in a real world situation, and outside laboratories or controlled condition; the sample was relatively small ($N = 52$) and non-randomised, and the intervention was implemented through a quasi-experimental setting. Therefore, generalisability of the results should be done with caution. However, as McKenney and Reeves (2013) point out, the external validity of an EDBR carried out under real world conditions stands to be increased. It should be stated that EDBRs, and broader all DBRs, are rarely, if ever, designed and conducted in the perfect possible way. Hence, there will always be room for improvement, both in terms of design and implementation (Anderson & Shattuck, 2012).

Second, as EDBR experts point out, the outcome of the design phase is completely based on the objectives, environment, researcher's thoughts and available resources. Although these elements are not seemed as limitations, what has been designed and developed in this study could be done differently by another researcher. Therefore, the course outline and the teaching strategy could yield different results in different situations.

Third, this study used Ajzen's (1991) TPB and Gagné's nine events of instruction as the theoretical foundation and instruction strategy guideline, while the quantitative objectives were to investigate the effects of the course on students' EI, ATB, SNs and PBC. Taking the quantitative findings into account, it is not clear that increase in the EIs and ATB was because of the course contents, the theoretical foundation or the teaching strategy and which one had more influence.

Fourth, initially, the course had been designed for 10 sessions but due to time constraints it had to be reduced to 7. Therefore, some sections had to be taken off the outline; which mostly done on the sections more related to entrepreneurial skills. Again, it is not clear that with those sections still EE could not make significant change on students' PBC or not.

As mentioned in previous chapters, this study was about designing and developing a sport entrepreneurship course for sport students in Malaysia. The need assessment and literature review was also conducted based on that. However, due to difficulties in sampling process, as well arranging a course that suits the participants in terms of time and location, it was decided to delimit the study to Sports Centre students of University of Malaya.

5.6 Implications for Further Studies

This study, to my knowledge, was the first research that used a systematic process to design an entrepreneurship course for non-business students, in particular sport programmes'. Taking this issue into consideration, having gone through the extant literature the need for studies with concentration on pedagogical aspects of EE in different disciplines, especially non-business programmes is evident. Based on the method and outcomes of this study the following can be suggested:

1. In this study I used Ajzen's (1991) TPB as the theoretical foundation of the course, and results indicated that out of three independent variables of this model that could potentially affect students' EIs, i.e. ATB, SNs and PBC, only ATB had significant effect. More studies, especially with different course objectives and longer duration, are needed to investigate the effectiveness of this model as the main theoretical foundation of an entrepreneurship course for non-business students.

2. Moreover, different course outlines and teaching strategies should be designed and implemented, in order to have better understanding and practical insight on the effectiveness of different types of EEPs.

3. In EE field, most of the researchers take EI as the primary target of the EEPs; since it is difficult to measure real entrepreneurial behaviour. However, it would be valuable, practical and insightful if more longitudinal studies are carried out, in the form of EDBR or action research, and investigate students' entrepreneurial behaviour during and after their studies. As Fayolle and Liñán (2014) point out, researchers can employ implementation intention theory (Gollwitzer, 1999). It is important to emphasise that, producing graduate entrepreneurs is only one objective among other objectives of EEPs. As Samwel Mwasalwiba (2010) points out, in addition to increase the number of self-employed graduates, increasing entrepreneurial mind-set and spirit, developing the

entrepreneurial contribution of graduates to the societies and stimulating entrepreneurial skills among them are the other important objectives of EEPs. In this study, as explained in section 4.2.1, the main objective of the course was to improve students' attitude towards sport entrepreneurship through an introductory course. However, it is important to design and conduct different sport entrepreneurship courses with other aforementioned objectives, and measure the effectiveness of them in order to improve our understanding of the theoretical foundations of such courses, as well expanding relevant theories.

5.7 Conclusion

The important role of entrepreneurs on economic development and improving the quality of people's lives is now more visible than ever before. Improving the quality and productivity of EEPs could yield to production of more graduate entrepreneurs, or at least more entrepreneurial graduates. Many aspects of EE and factors that can increase EIs of students have been reflected in the extant literature. What is overlooked is studying systematic approaches in designing different types of EEPs. Taking the growing importance of entrepreneurship for non-business students into account, and to fill the gap of such studies in sport management literature, I conducted this EDBR.

As the outcome of the design phase, after conducting an extensive literature review and a needs assessment analysis from different stakeholders of sport industry in Malaysia, a course outline along with a teaching strategy were designed and developed. To investigate the effectiveness of the design, it was instructed for a group of sport students in Sports Centre, University of Malaya; and the results were statistically compared with the control group that was not exposed to the course. Based on my classroom observations, I found Gagné's nine events of instruction helpful and effective in terms of content delivery and enhancing students' learning process. I

noticed students learned new topics with relevant video examples effectively. I also found introducing local entrepreneurs through short videos or reading their biographies for students is an effective method during an introductory course.

Moreover, the post-intervention results indicated that improving students' attitude towards entrepreneurship could change their intentions toward self-employment significantly. However, my study found no significant relationships between students' perceived SNs and PBC with their EIs. The follow-up outcomes indicated that lack of financial resources was perceived as the strongest setback toward starting a business for sport graduates; lack of entrepreneurial skills was identified to be the second one. The results of this study, specially the process of design, can be used by instructional designers, university decision makers and authorities in order to improve the quality of EEPs.

Overall, I believe this study could, hopefully, open a new window for more research on systematic process of designing entrepreneurship course, especially for sport students and other non-business programmes; as Arrow (1962) says: "new knowledge is an outcome of the learning by doing process."

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APPENDIX

APPENDIX A - SPORT ALUMNI NEEDS ASSESSMENT SURVEY

UNIVERSITI MALAYA
KUALA LUMPUR

Entrepreneurship Education for Sport Students

Dear Respondent,

I am a PhD candidate of Sports Center, University of Malaya and currently I am developing a sports entrepreneurship course for my PhD study. This questionnaire aims at enhancing the exploratory part of my thesis. I would appreciate if you could kindly contribute to this research by responding to this questionnaire. Please be informed that there is no right or wrong answer in this questionnaire. Your response shall only be used for academic research purposes, and shall be treated as confidential.

Thank you in advance for your cooperation and participation.

PAYAM ANSARI
payam.ansari@siswa.um.edu.my

Supervisors:
Dr. Solha Husin (Sports Center)
Prof. Dr. Nazari Ismail (Business and accountancy Faculty)

* Required

1. Gender: *

- ◯ Female
- ◯ Male

2. Occupation: *

- ◯ Self-employed
- ◯ Employee of an Organization/Company
- ◯ Searching for a job

3. Is your current job related to Sport? *

- ◯ Yes
- ◯ No

4. Highest academic achievement level: *

- ◯ Bachelors
- ◯ Masters
- ◯ PhD

5. Have you ever taken or participated in any Business or Management courses? *

- ◯ Yes
- ◯ No

6. If I can choose between working on my own OR for an organization, I would choose working for an organization. *

- ◯ Agree
- ◯ Disagree

7. In the Sport industry, opportunities already exist for sport students to start their own business after graduation. *

- ◯ Agree
- ◯ Disagree
- ◯ No Idea

8. There should be a course/subject about Entrepreneurship/Starting Small Business in all Sport programs. *

- ◯ Agree
- ◯ Disagree
- ◯ No Idea

9. Entrepreneurship/Starting Small Business course should be ..... course in the curriculum. *

- ◯ An elective
- ◯ A mandatory

10. If I can find a course about Entrepreneurship, I will attend. *

- ◯ Agree
- ◯ Disagree

11. If you want to start your business, what business aspects do you want to learn?

12. In your opinion, for a Sport graduate what is needed to set up a business?

13. If you would like to receive the results of this research or updates about Entrepreneurship Course please submit your email address:

Submit

Never submit passwords through Google Forms.

APPENDIX B - SPORT INDUSTRY PRACTITIONER NEEDS ASSESSMENT SURVEY

UNIVERSITI MALAYA

KUALA LUMPUR

Sport Graduates & Entrepreneurial Skills

Dear Respondent,

I am a PhD candidate of Sports Center, University of Malaya. As part of my PhD project, I am designing a course to teach Sport students of Malaysian universities how to start a small business and be an entrepreneur in Sport industry.
This questionnaire aims at enhancing the exploratory part of my thesis by asking business leaders', entrepreneurs' and managers' practical points of view towards starting business in this industry. I would appreciate if you could kindly contribute to this research by responding to this questionnaire. Please be informed that there is no right or wrong answer in this questionnaire. Your response shall only be used for academic research purposes, and shall be treated as confidential.

Thank you in advance for your cooperation and participation.

PAYAM ANSARI
payam.ansari@siswa.um.edu.my

Supervisors:
Dr. Solha Husin (Sports Center)
Prof. Dr. Nazari Ismail (Business and accountancy Faculty)

* Required

1. Gender: *

- ◯ Female
- ◯ Male

2. Job position: *

- ◯ Entrepreneur/Business Owner
- ◯ Manager (in any level)
- ◯ Employee

3. Highest academic achievement level: *

- ◯ Diploma
- ◯ Bachelors
- ◯ Masters
- ◯ PhD

4. Have you ever participated in any Business or Management course(s)? *

- ◯ Yes
- ◯ No

5. In the Sport industry, opportunities already exist for sport students to start their own business after graduation. *

- ◯ Yes
- ◯ No

6. There should be a course/subject about Entrepreneurship/Starting Small Business in all Sport programs. *

- ◯ Agree
- ◯ Disagree
- ◯ No Idea

7. In your opinion, for a Sport graduate what is needed to set up a business?

8. If you would like to receive the results of this research or updates about Entrepreneurship Course please submit your email address:

Submit

APPENDIX C - ENTREPRENEURIAL INTENTIONS QUESTIONNAIRE

Dear Respondent,

The questionnaire is a part of a research that aims to measure Entrepreneurial Intentions among students in Malaysia. This work is undertaken as part of my PhD research and is conducted under supervision of **Dr. Solha Husin** and **Prof. Dr. Mohd Nazari Ismail** in the Sports Centre, University of Malaya. I would appreciate if you could respond to this questionnaire and help in my research. **Please be informed that your response shall be used for academic research purposes only, and shall be treated as confidential.**

Thank you for your cooperation and participation.

Payam Ansari
payam.ansari@siswa.um.edu.my

A. Demographic Data

1. What is your age? ❑ <20 ❑ 20-21 ❑ 22-23 ❑ 24-25 ❑ >25	4. Ethnicity: ❑ Chinese ❑ Indian ❑Malay ❑ Other (Not Malaysian)
2. Gender: ❑ Female ❑ Male	5. Level of Study: ❑ Bachelors ❑ Masters ❑ PhD
3. Which faculty are you studying in? ……	6. This is the ….th semester of my current study.
7. Have you ever taken or participated in any Business or Management courses? ❑ Yes ❑ No	

B. Please indicate your level of agreement with the following statements about the Entrepreneurial Activity from **1 (total disagreement)** to **7 (total agreement)**.

(Sila nyatakan tahap persetujuan anda terhadap kenyataan berikut tentang Aktiviti Keusahawanan dari skala **1 (sangat tidak setuju)** hingga **7 (sangat setuju)**.)

	1	2	3	4	5	6	7
B1. Starting a firm and keeping it viable would be easy for me. (Memulakan suatu firma dan mengekalkannya berdaya maju adalah mudah bagi saya.)	☐	☐	☐	☐	☐	☐	☐
B2. A career as an entrepreneur is totally **unattractive** to me. (Kerjaya sebagai usahawan langsung tidak menarik kepada saya.)	☐	☐	☐	☐	☐	☐	☐
B3. My friends would approve of my decision to start a business. (Rakan-rakan saya akan bersetuju dengan keputusan saya untuk memulakan perniagaan.)	☐	☐	☐	☐	☐	☐	☐
B4. I am ready to do anything to be an entrepreneur. (Saya bersedia untuk melakukan apa sahaja untuk menjadi seorang usahawan.)	☐	☐	☐	☐	☐	☐	☐
B5. I believe I would be completely **unable** to start a business. (Saya percaya saya benar-benar tidak dapat memulakan perniagaan.)	☐	☐	☐	☐	☐	☐	☐

B6. I will make every effort to start and run my own business.
(Saya akan benar-benar berusaha untuk memulakan dan menjalankan perniagaan sendiri.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B7. I am able to control the creation process of a new business.
(Saya dapat mengawal proses mewujudkan perniagaan baru.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B8. My immediate family would approve of my decision to start a business.
(Keluarga terdekat saya akan bersetuju dengan keputusan saya untuk memulakan perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B9. I have **serious doubts** about ever starting my own business.
(Saya mempunyai keraguan yang serius tentang memulakan perniagaan saya sendiri.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B10. If I had the opportunity and resources, I would love to start a business.
(Jika saya mempunyai peluang dan sumber, saya ingin emulakan perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B11. My classmates would approve of my decision to start a business.
(Rakan sekelas akan bersetuju dengan eputusan saya untuk memulakan perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B12. Amongst various options, I would rather be **anything but** an entrepreneur.
(Dalam begitu banyak pilihan yang ada, saya lebih rela menjadi apapun asalkan bukan usahawan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B13. I am determined to create a business venture in the future.
(Saya berazam untuk mewujudkan satu perusahaan perniagaan di masa depan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B14. If I tried to start a business, I would have a high chance of being successful.
(Jika saya cuba memulakan perniagaan, saya mempunyai peluang yang tinggi untuk berjaya.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B15. Being an entrepreneur would give me great satisfaction.
(Menjadi seorang usahawan akan memberi saya kepuasan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B16. It would be **very difficult** for me to develop a business idea.
(Adalah **sangat sukar** bagi saya untuk membangunkan idea perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B17. My professional goal is to be an entrepreneur.
(Matlamat profesional saya adalah untuk menjadi seorang usahawan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B18. Being an entrepreneur implies more advantages than disadvantages to me.
(Menjadi seorang usahawan memberi lebih banyak gambaran kebaikan berbanding keburukan kepada saya.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B19. I have a **very low** intention of ever starting a business.
(Saya mempunyai hasrat yang **sangat rendah** untuk memulakan perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B20. I know all about the practical details needed to start a business.
(Saya mengetahui semuanya tentang maklumat praktikal terperinci yang diperlukan untuk memulakan perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

B21. My lecturers would approve of my decision to start a business.
(Pensyarah saya akan bersetuju dengan keputusan saya untuk memulakan perniagaan.) ☐ ☐ ☐ ☐ ☐ ☐ ☐

"Thank you for your participation"