

Entrepreneurship Education in Business Schools

Best practices and recommendations

Equal Report for Orientation of Entrepreneurship Activity on Business Schools in Europe

ABSTRACT

This report aims to address the gap between the growing number of entrepreneurship initiatives in European Business Schools and the lack of guidance on how to support this type of education. The analysis includes best practices in entrepreneurial awareness initiatives, specialized courses and support for entrepreneurs in Business Schools. The report has two main objectives: To showcase best practices in entrepreneurship education in Business Schools and to give recommendations on how to improve entrepreneurship education.

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INTRODUCTION

There is a strong concern across Europe to promote entrepreneurship at all levels of education in society. These initiatives not only create new businesses but also promote processes of creative research and innovation that must be the base of the future in Europe. This concern has been clearly manifested by the European Commission and raised in its report concerning Entrepreneurship Education at School in Europe (European Commission, 2012): “*Entrepreneurship education is essential not only to shape the mindsets of young people but also to provide the skills and knowledge that are central to developing an entrepreneurial culture*”. In order to assure the development of entrepreneurship education in Europe, several associations have been created. These associations address entrepreneurship education in high schools, universities and business schools. In this report, our focus is on three associations that concern entrepreneurship education in business schools: Asociación Española de representantes de Escuelas de Negocios (AEEDE) in Spain, the Chartered Association of Business Schools in UK and the Conférence des Grandes Ecoles (CGE) in France. These three associations participate together to the development of a common EQUAL project funded by European Social Funds (ESF).

The main goal of this project is to provide guidelines for business schools in improving entrepreneurship education. Business Schools have a unique position, especially because of the number of ongoing initiatives that Business Schools pursue to create Entrepreneurship Centers, which support innovative projects developed by students.

Specifically, this report presents best practices in Business Schools across three countries: Spain, France and UK. Based on these analyses, and useful guidelines for promoting entrepreneurship in business schools are offered.

The report is organized in four sections. First, we introduce a summary of a literature review on entrepreneurship education. Second, we present the methodology of our study based on a qualitative approach. Third we highlight the best practices that we collected from three countries via qualitative interviews with entrepreneurship managers from Business Schools and secondary data available. Fourth, we present recommendations for the business schools based on the data collected.

LITERATURE REVIEW

This section will describe first the increasing importance of the entrepreneurship education in Europe. We then outline the controversy regarding the definition and the objectives of the entrepreneurship education and by so doing we define our choice of definition, along with its theoretical base. We argue that entrepreneurship education is based on two approaches that will be discussed in detail: the traditional and traversal approaches. The different educational practices used to teach entrepreneurship are then described. We explain our choice for an integrative model for the entrepreneurship education developed by Tounés (2003). Finally, we analyze the different skills that are developed by the entrepreneurship education.

Increasing importance of the entrepreneurship education in Europe

In recent years, partly as a result of the recession and partly as a result of technological changes, the promotion of entrepreneurship has become one of the priorities of governments and other organisations: education and other initiatives to support the creation of businesses are viewed as the driving forces for economic growth, job creation and innovation. Thus, entrepreneurship development has attracted the attention of academics, policy makers and practitioners and the role of education in fostering entrepreneurship has been widely studied.

Entrepreneurial activities are considered crucial to economic development. In fact, the number and diversity of courses offered in entrepreneurship have increased over the past two decades (Solomon, 2007; Nurmi & Paasio, 2007; Matlay, 2008; Fuchs, Werner & Wallau, 2008). Recent studies show that entrepreneurship education does play a significant role in promoting entrepreneurship among students. A Special GEM Report on entrepreneurship training & education performed in 38 countries (Coduras, Levie, Kelley, Sæmundsson, & Schøtt, 2010) reveals that entrepreneurs are more likely to have received entrepreneurship training than the rest of the working age population. Similarly, Menzies and Paradi (2003) found that taking one or more courses in entrepreneurship was a strong predictor of business ownership among engineering graduates of a major Canadian university.

In the past years, entrepreneurship education has progressively continued to grow and develop worldwide, but there are large differences between countries (Fayolle

& Klandt, 2006). In the USA many business and technology schools are offering “concentrations” or “majors” in entrepreneurship (Twaalfhoven and Prats, 2000). In Europe entrepreneurship is still trying to find its home. More activities are in place across Europe but efforts are fragmented and often driven by external actors instead by the education system itself (Wilson, 2008). Entrepreneurship education encounters not only differences at the countries level, but also controversies in defining the term and in understanding its objectives. In the following line, we will explore these controversies.

Overview of the controversy about definitions and objectives of the entrepreneurship education

Entrepreneurship education is not built on a common theoretical framework but rather on competing general theories which are not empirically tested. Moreover, scientific articles related to entrepreneurship education offer a fragmented understanding, being focused only on a certain aspects of this process. These issues generate challenges in obtaining a holistic view of the process and in defining the term of entrepreneurship education. In fact, Mwasalwiba (2010), has undertaken a meta-analysis of the literature on the subject and discovered that 32% of the reviewed articles related to entrepreneurship education were focused on the educational processes that concern individuals' attitudes, behaviors, values or intentions towards entrepreneurship. Additionally, 32% of the reviewed articles regarding entrepreneurship education are focused on the acquisition of personal skills in entrepreneurship, whereas others related it to new business creation (18%), opportunity recognition (9%) and managing an existing small firm (9%).

There is also a controversy regarding the objectives of entrepreneurship education. According to Mwasalwiba (2010) 34% of authors stated that entrepreneurship education is generally aimed at creating or increasing entrepreneurial attitudes, spirit and culture among individuals and in the general community. Others 27% associate it with new venture and job creation; 24% link it with the contribution of entrepreneurs to society. And 15 % were related to the development of the entrepreneurial skills among individuals. Moreover, this controversy is also the result of different views and objectives pursued by government and educational institutions. Government and local officials want universities to address local, regional and national economic challenges, related to low economic growth, unemployment etc., whereas some educators want to retain their main objectives the education of individuals and

prefer to retain autonomy about the type of courses and activities pursued in universities.

Despite these controversies, we need to define what is meant by the term: there is a need to “entrepreneurship education”. In the following section we will present the definition of the term and its theoretical base.

An attempt to define and clarify the entrepreneurship education

Mwasalwiba (2010) argues that in the literature there has been a tendency to use interchangeably the concept of entrepreneurship education, enterprise education and entrepreneurship education. An attempt is made to define “enterprise education”; “entrepreneurship education” and “entrepreneurial effectiveness”, by Quality Assurance Agency for Higher Education (QAA) in its 2012 report on this topic, the following definitions are provided: “Enterprise education is defined as the process of equipping students (or graduates) with an enhanced capacity to generate ideas and the skills to make them happen. Entrepreneurship education equips students with the additional knowledge, attributes and capabilities required in the context of setting up a new venture or business. All of this is a prerequisite for entrepreneurial effectiveness that is the ability to function effectively as an entrepreneur or in an entrepreneurial capacity, for example within small businesses or as part of ‘portfolio careers, where multiple job opportunities, part time work and personal ventures combine.” (QAA, 2012, page 2). Taking into account these differences, in the context of this report, we will use the term of the entrepreneurship education.

The term “entrepreneurship education” is based on the theory of the opportunity recognition. This theory argues that successful entrepreneurs are able to recognize and exploit an opportunity. Indeed many educators and researchers start from the assumption that entrepreneurship education needs to be based on two building blocks: 1. Stages of entrepreneurial opportunity (recognition, evaluation, formation and exploitation and 2. Development of enterprising behavior, skills and attributes in relation to each stage within the entrepreneurial process. However, Lourenço, Taylor and Taylor (2013) argue that such assumptions of ‘opportunity recognition theory’ remain largely untested. Additionally, these authors add that this theory needs to analyze more in-depth the key skills that shape entrepreneurial behavior and contribute to success in introducing innovation in the workplace or in creating a successful enterprise or other enterprising activities. These key skills have to do more

with creativity-imagination-vision-foresight and the “socially embedded nature” of entrepreneurial activity. This implies that it is very important that entrepreneurship education programs foster networks among a variety of stakeholders involved in building enterprises. These programs involve an active pedagogy approach to teach entrepreneurship. This active pedagogy approach is called transversal approach and it is the opposite of the traditional approach. In the following lines, we will understand the particularities of the two approaches.

The traditional versus the transversal approach to teach entrepreneurship

The traditional approach - called also the functional approach by some academics - supposes an analytic process which details each step of the entrepreneurial project without providing the global panorama of the process (Tounés, 2003). This approach will help the student to acquire a lot of information about different facets of the entrepreneurial projects, but the student will not be able to link them easily.

The transversal approach is related to an active pedagogy, which is the most appropriate for teaching entrepreneurship (Tounés, 2003). In this active pedagogy approach, students are central actors of their learning process and they are more focused on the solving-problems strategies that on accumulating non- useful or repetitive knowledge. This approach helps the students to earn time and fast knowledge because it requires working with different profiles in a project team. This project team assembles different skills as business, design and technical skills and the students can have a whole picture of the entrepreneurial project.

Overall, there is a growing consensus that traditional pedagogical approaches are not fully suitable for entrepreneurship education. As Lourenço, Taylor and Taylor (2013) argue education for entrepreneurship is to support and facilitate students to become entrepreneurial and/or to become an entrepreneur. This form of education adopts a more constructive learning pedagogy whereby learning is constructed by learners through the process of “doing”. There is also a growing consensus that education and training for entrepreneurs should be situated within the actual workplace or simulated contexts that provide them with opportunities to apply what they have learnt while taking actions to accumulate their first-hand experience and to reflect upon experience. As Mann (year, p.562) states: “Instead of providing skills and knowledge necessary for start-up and small business management directly,

entrepreneurs' training programs should focus on *providing appropriate contexts* that would induce the development of entrepreneurial behaviors related to learning. In doing so, education and training must provide opportunities for the entrepreneurs to apply what they have learned in taking action so that they can accumulate more first-hand experience".

To sum up, academics working within the traditional approach tend to adopt more reproduction practices whereas those academics and researchers working within the transversal approach use more construction and co-construction practices. In the following section we will describe the characteristics of these practices.

Education practices to teach entrepreneurship

There are multiple classifications for education practices in teaching entrepreneurship (Tounés, 2003), and for the framework of this work we choose the one proposed by Bécharde (2000) which highlights three categories of practices: reproduction practices, construction practices and co-construction practices. The reproduction practices belong to the functional approach of teaching entrepreneurship and the construction and co-construction practices belong to the transversal approach.

A. *Reproduction Practices*

In the case of the reproduction practices the focus is on the individual and the learning process is controlled by the teacher. These reproduction practices can be found in the form of the repetitive exercises, oral presentations, modular courses and documentations.

B. *Construction Practices*

In the case of the construction practices, the student can control his learning process. These construction practices entail guided research with the purpose of finding more elements of the business idea; interviews with specialists or experts in the field of the entrepreneurship with the goal of developing an individual entrepreneurial project.

C. *Co-Construction Practices*

In the case of the co-construction practices the learning management process is divided between the teacher and the student. The co-construction practices

involve teamwork, business case studies in entrepreneurship, roleplaying games, and focus groups between students, entrepreneurs and experts in the field of entrepreneurship.

In order to discover how these practices are used in different entrepreneurship programs, Béchard (2000) undertook two studies in the Quebec region. He discovered that 68% of the programs related to the introduction in the entrepreneurship field are using more reproduction practices. His results also highlighted that 65% of the programs related to the creation of a new startup use more reproduction practices supported by the co-construction practices. Finally, his results showed that 54% of the programs concerning the development of a new enterprise are using co-construction practices supported by the reproduction practices.

Similarly to Bechard (2000), Mwasalwiba (2010) identified 26 practices from a total of 21 articles. Most practices are categorized into two groups: “traditional methods” (comprising normal lectures, case studies and group discussions) and “innovative methods” (which are more-action based). They are also categorized as “passive methods” and “active methods”. Other practices were discussed, but are less common: business/computer or game simulations, video or filming, role models or guest speakers, business plan creation, project works, games and competitions, setting of real small business ventures, workshops, presentation and study visit.

To develop a common understanding of “best educational practices”, we need to have access to success indicators. Here again there is a lack of agreement about what the indicators might be. (Mwasalwiba, 2010, p. 33). In order to have an exhaustive view of the entrepreneurship education, an integrative model is proposed as developed by Tounés (2003) that we will describe further.

The integrative model of Tounés (2003)

Teaching entrepreneurship has to take into consideration, three levels of analyses: the goal, the public, the methods and the practices used to teach entrepreneurship (Tounés, 2003). In function of the goal we have 3 categories of entrepreneurship education initiatives: awareness and information, specialization in entrepreneurship and orientation and support sessions for the students who want to create a startup. In function of the target we have two categories of targets: the students and the

persons who want to create their enterprise. The entrepreneurship courses are using different educational practices in function of the goal and the public targeted. In this section we will describe the characteristics of each type of entrepreneurship courses.

A. Courses related to awareness and information

In these courses the students are discovering the entrepreneurship field. The goal of these courses is to raise awareness and to stimulate the curiosity of a wide audience (students and futures entrepreneurs) with regard to business creation activity. These courses are about informing individuals that at some point in their career, they will be called to start their startups or to participate in the creation of a startup. The importance of these courses is given by the fact that they offer the knowledge that demystifies the startup creation phenomenon. It also seems indispensable to inform the students realistically about the steps to create startups, the difficulties and the key success factors that are involved in the process of creating of a new business.

These courses use more reproduction practices that can take the form of an academic course that explains different concepts and themes of entrepreneurship and the results of some surveys related to the entrepreneurship trends. They can also include some co-construction practices in the form of storytelling movies of successful entrepreneurs and real testimonials of the persons who succeeded in the business creation process.

The courses related to awareness and information about entrepreneurship are the most used in teaching entrepreneurship because they do not require a lot of resources - human, logistic and time resources -to be implemented. Some authors suggest that these introduction courses into entrepreneurship have to become compulsory for each business school or university (Tounés, 2003).

B. Courses related to the specialization into entrepreneurship

The goal of these specialization courses into entrepreneurship is to deepen the knowledge and learning of the students who wants to take the adventure to create a startup or to be involved in a startup creation or acquisition. By participating in these courses, students will be able to assure multiple functions, such as to create a business, to work as an intrapreneur into a firm or to acquire and manage an

existing firm. They can also give the support and advice to people who want to launch a startup or to acquire one.

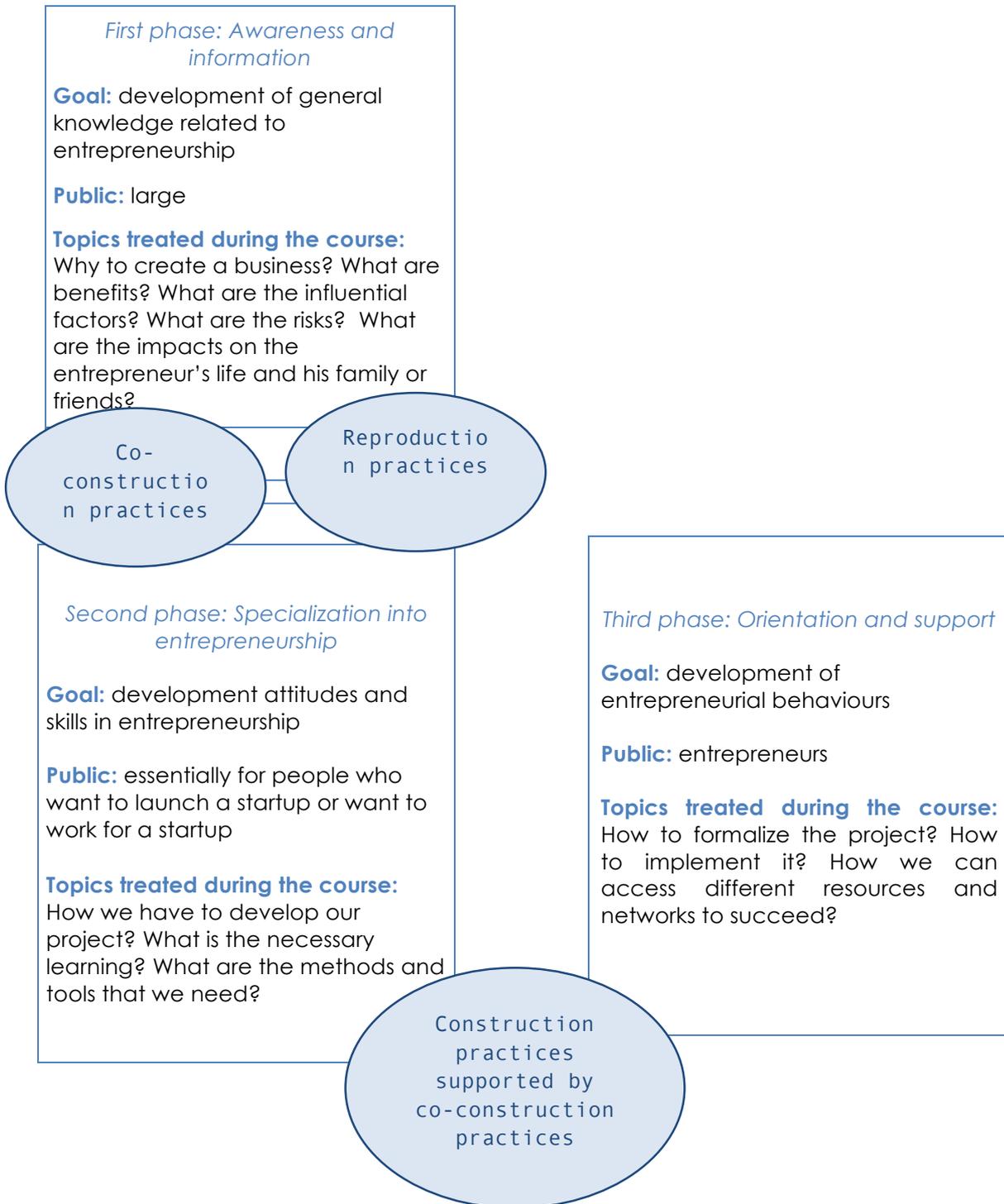
These types of specialization courses into entrepreneurship ask for more specialized human resources represented by experts or motivated teachers. The practices used in these kinds of courses are related more to construction practices supported by the co-construction practices. They can take the form of a real or fictitious startup creation process or a startup acquisition project. They can also be focused on real innovation projects proposed by SME where students work in groups and come with their solutions.

C. Orientation and support for students who are creating or acquiring a startup

The goal of these support initiatives is to help the students who started the process of launching a startup, to guide them and assist them, by focusing the courses on the need of each project. The practices used in order to develop these types of accompanying sessions are as in the case of the specialization courses focused on construction practices supported by the co-construction practices. In these courses, The students obtain a customized support and advice in the business plan realization and implementation. Students have access to highly motivated staff, who supervises the process of business creation step-by-step in supervising the process. In these courses, teachers also involve a network of experts who can validate or rejects some issues related to the project.

The elements that compose the Tounés model (2003) are represented in the Figure 1. All the types of entrepreneurship courses are developing a different set of skills that we will further analyse.

Figure 1: Integrative model of Tounés regarding the entrepreneurship education (Tounés, 2003)



Skills development via entrepreneurship courses

In the literature, there is a debate as to the key skills that individuals should develop to be successful entrepreneurs. Bjornali and Storen have recently undertaken an empirically driven study on 36,000 graduates who graduated in Europe between 1999/2000 with the purpose to examine the effects of individual competencies and characteristics linked to educational programmes that contribute to the development of competencies conducive to innovation.¹ The study draws on theories of intrapreneurial competencies and the entrepreneurship education literature. It categorises skills and behaviour of successful entrepreneurs according to the following 3 models: 1. Technical innovator (an individual with the ability to recognise opportunities by having a particular insight into a particular knowledge combination and what it means for users. Technical innovators tend to be professional with creative individual competencies and analytical skills with an ability to come up with new ideas and solutions; the innovation champion recognizes the value of new ideas or innovations and takes them forward. This person has an ability to coordinate activities. 3. The knowledge broker is able to link information and knowledge from various internal and external resources. 3. The Executive Champion ensures that resources are available and has the ability to negotiate effectively and mobilise capacities of others. The results show that both communicative and championing competencies are the key to successful innovation, but also the professional and creative competencies increase the probability of introducing innovations. No impact is generated by the competencies related to efficiency and productivity. Moreover, they found that the probability of being innovative is nearly 10% higher among graduates with higher professional and creative competencies compared to those with lower levels².

The findings also suggest that having employees with brokering competencies can be highly significant for sustaining employee-driven innovation. These competencies include taking the initiative in establishing professional contacts outside of the organization and keeping professional colleagues informed about new developments. The brokering role involves delivering new information to the technical innovator or champion and drawing information for use elsewhere in the

¹ Random sample selected using multivariate analysis.

² The importance of creativity was also evident as a result of a government funded project, known as "Student Placements for entrepreneurs in Education (SPEED) which ran in 13 higher education institutes in the UK between 2006 and 2008. Rae (2001, page 612)

broker's network. Communication and knowledge sharing undertaken by entrepreneurial employees are therefore important in order to take advantage of new innovation-based knowledge.

METHODOLOGY

This research used an exploratory research design through a qualitative research approach. The research approach was followed by the detailed investigation and analysis of twelve business schools that offer entrepreneurship programs in three countries: Spain, France and the United Kingdom. In the 12 institutions sampled, semi-structured interviews were conducted with prominent academics and administrators involved in the entrepreneurship programs. The sampling approach was done through non-probability sampling in the form of a convenience sample. A convenience sampling approach was necessary due to study mandate, budget and time constraints.

As semi-structured interviews were used in this research, an interview guide was developed based on Tounés (2003) model. The framework consists of 3 categories of entrepreneurship initiatives: awareness and information, specialization in entrepreneurship and orientation and support for students who want to create a startup.

The study was conducted by a team of three researchers, each focusing on one country. A summary of the interview schedules was completed by the respective researchers for each of the institutions visited, with information available from a combination of the internet, interviews with academic members of staff, brochures and articles. The information of all universities and business schools was, then, summarized in table format by the respective researchers. Thematic analysis was used to analyze the collected data. Best practices were, then, identified based on the results of the investigations.

Participation in the research was voluntary and individuals who participated were not subject to any benefit. Prior to the commencement of each interview, a brief explanation of the study was provided to the participant/s to improve their understanding of the study and its background.

BEST PRACTICES - Spain

In this section the summaries of the best practices of key institutions are presented.

Awareness and information

South Summit. IE Business School - www.ie.edu

Description

The South Summit is an annual gathering of Southern Europe and Latin America's top talent. With more than 7.000 attendees, including 3.500 entrepreneurs and 450 investors The South Summit has become one of Europe's most relevant startup up events.

The mission of South Summit is to gather the greatest innovations and connect them to some of the regions' largest customers and investors, and to generate awareness and to facilitate access to finance.

Participants: Entrepreneurs, investors, organizations, people interested in innovation.

Pedagogical methods: Lectures, panel discussions, workshops, meetings (entrepreneurs and investors).

Start up Wednesdays. ESADE Business School

Description

Start up Wednesdays is a series of events to meet entrepreneurs, share experiences and networking in ESADE campus. In every meeting an interesting entrepreneur is invited to explain his or her experience. The ultimate goal is to create synergies between attendants and guest speakers from different nationalities, guest speakers with unique background.

Participants: ESADE students, entrepreneurs from ESADE Creapolis and top entrepreneurs in Spain.

Pedagogical methods: Presentations and feedback.

Start Up Turbo. ESADE Business School

Description

Startup Turbo is an annual entrepreneurship competition, made by and for students. During a whole weekend students create, develop and design their ideas by coming together with students of different universities and fields such as: Business, design and engineering.

All the resources are provided to inspire and help students in every step that they take in the process: from mentors, to workshops and entrepreneurial tools.

Startup founders also help them in this process: Advising, guiding and explaining the considerations that they should bear in mind.

The ultimate goal is to generate interest on entrepreneurship among students and to stimulate idea generation and entrepreneurship among youth.

Participants: ESADE students.

Pedagogical methods: Talks, workshops, mentoring,

IESE Private Equity Competition

Description

Private Equity Competition is a competition that simulates a real-life private equity transaction. Teams from different MBA schools negotiate with, and present in front of judges from private equity firms and in front of managers and bankers who actually participated in the case deal. The competition simulates a real-life private equity buyout and features two rounds, the internal round and the final round. In the internal round each school selects the best team that will represent the school in the final round in Barcelona. In the final round, each team from each school will negotiate and present their final investment proposal to the panel of judges in Barcelona, at the IESE Campus.

The winning team earns a prize of €2,000, granted by one of the sponsors' of the event, and the participants have a "Real-life" experience, a learning opportunity and the opportunity to network with Private Equity professionals and top MBAs from other schools;

Participants: MBA students from Business Schools.

Pedagogical methods: Talks, workshops, mentoring,

Specialization courses

MSc in Innovation and Entrepreneurship. ESADE Business School

Description

The goal of this Master's programme is to prepare students for leadership and the direction of innovation in all its areas, from the management of corporate innovation systems (new products, services, business models and processes) to the creation of new business opportunities and models (entrepreneurship). It includes core courses about the foundations of innovation and entrepreneurship and advanced innovation and entrepreneurship, study tours and skill seminars, electives, a summer internship period and a Master Project.

The programme is designed to help students succeed when exploiting business opportunities or managing corporate innovation efforts.

Participants: University graduates.

Pedagogical methods: Lectures, cases (examples of nearby companies, alumni entrepreneurs), work with companies (real challenges) and study tour.

Entrepreneurship curriculum in the MBA. IESE Business School

Description

During the MBA, students have the opportunity to develop their entrepreneurship skills and receive support from the Business School to set up their own business.

Through the course Fundamentals of Entrepreneurial Management, all MBA students will learn about the entrepreneurial mindset and skills: Understand entrepreneurship, access a business idea, develop a concept. The MBA also offers elective courses aimed at developing a business plan. Students will also have the opportunity to participate in the Summer Entrepreneurship Experience, where students will either pursue their own projects (individually or in teams) or have the opportunity to work with carefully selected external teams and opportunities in sectors with high growth potential. In order to seek capital, students can present a viable project to IESE Business Angel Network Finaves.

Participants: MBA students.

Pedagogical methods: in-campus sessions, hands-on practical work, informative sessions by faculty and guest speakers, workshops, one-on-one project mentoring, mentoring by experienced entrepreneurs and investors, and off-campus trips to the local entrepreneurial ecosystem.

MBA Entrepreneurship track 1: Startup Lab. IE Business School

Description

The Start-up Lab takes place during the third Core Period of the IMBA program comprising 60 sessions taught over 5 weeks. This Lab consists of 6 Knowledge Streams (Navigating the Start-up Ecosystem, Mastering the Entrepreneur's Toolkit, Start-up Mechanics & Entrepreneurial Readiness, From zero to Product: Towards an MVP, Growth hacking & Generating Market Traction and From Bootstrapping to Series A Funding) covering 18 Courses with an average of 3 sessions per course. In the start-up lab, students are immersed in an incubator-like atmosphere together with other peers who want to start their own venture.

The objective of the Start-up Lab is to encourage, empower and support early-stage start-up ventures. The goal is to create a framework for the students that provides them with the resources, knowledge and network to be able to create and launch viable businesses whether right after the program or in the future.

Participants: MBA students.

Pedagogical methods: Workshops, cases, projects.

MBA Entrepreneurship Lab (Entrepreneurship Track). ESADE Business School

Description

The ESADE E-Lab is dedicated to provide hands-on experiences that are relevant for MBAs aiming both for own startups and being entrepreneurs within existing organizations. The ESADE E-Lab is dedicated to Empowering Entrepreneurs. Students will acquire detailed insights about how eight tech companies work and how they got started, recruitment contacts, networking and a Berlin experience.

The E-Lab offers in-depth Business Model Analysis of 7 high growth startups & 1 venture capital both prior in class & at the company, a range of electives to choose, regular Accelerator meetings throughout the year to discuss and develop ideas and meet high profile entrepreneurs, maximum access to the E-Garage for all the activities provided by the ESADE Entrepreneurship and Innovation Institute, and an International Study Tour including an Evening Open Meetup of the Entrepreneurial Scene in Berlin (Germany).

Participants: MBA students.

Pedagogical methods: Lectures, cases (examples of nearby companies, alumni entrepreneurs), work with companies (real challenges) and study tour.

From Science To Business. ESADE Business School

Description

From Science to Business is a 3-day intensive workshop on entrepreneurship in research that prepares participants to get acquainted with the business world, and to show how companies create value to society and for themselves. The workshop provides with a framework to understand how companies work and how they create value in a competitive environment, helps to understand the new venture creation process, and the role that science/technology plays in it, and shows that new venture creation needs scientists and engineers, and that entrepreneurship can be an attractive career path for them.

This course aims to increase the speed of turning innovation and knowledge into new ventures.

Participants: University students from technological disciplines and technological institutions.

Pedagogical methods: Lectures and cases (examples of nearby companies, alumni entrepreneurs).

Aula de emprendedores. ESADE Business School

Description

Aula de emprendedores (Entrepreneurs' classroom) is a training and mentoring program for entrepreneurs with disabilities who are willing to set up a business or for the acceleration of newly created business initiatives. Each participant has a mentor who supports him or her throughout the process.

Participants: Up to 20 young entrepreneurs who meet the following criteria: University or vocational training degree, A business idea or a newly created startup (maximum one year), Certificate of disability (minimum 33%).

Pedagogical methods: Lecturers encourage participation and the program is based on the "learning by doing" approach.

Workshops and activities for entrepreneurs. IESE Business School

Description

IESE Business School organizes three workshops to give an overall view of the challenges, threats and opportunities linked to entrepreneurship.

- Workshop 1: "I have an idea... now what?" This workshop will seek answers to the following questions: How much is an idea worth? How can it be protected? What's the difference between an idea and a business opportunity? How are business opportunities assessed? What kind of opportunities deserve to be pursued and what kind don't?
- Workshop 2: "*The Lean Startup*" This workshop will help participants find a business model by seeking answers to these questions: Is it time to carry out market research and write the business plan? How do you identify the key risks and uncertainties of your project? What can you do to address these risks and uncertainties? When is it time to "manufacture" the product? When is it time to place your product on the market?
- Workshop 3: "Is my project worth investing in?" When is it time to present my project to investors? What kinds of investors are there, where do they work and how can they be contacted? What answers will these investors need before they invest? What will they want in exchange for their money? Do I really need an investor? Do I really want an investor?

Orientation and support

Area 31. IE Business School

Description

Area 31 is a business incubator that can accommodate for up to 100 startup teams per annum and aims at accelerating entrepreneurial projects. It hosts teams of IE students as they make their business ideas real. There are also IE Alumni teams that are incubating their own startups in Area 31. All of them are invited to present in front of investors at the Venture Network and at the Venture Days.

Selected investors use Area 31 as their office, working side by side with our entrepreneurs. The team of the IE Center for Entrepreneurship and Innovation (who manages the activities in Area 31) also collaborates in the Spain Startup Co-investment fund, through which international investors can get access to exclusive deal flow.

Objectives: To foster collaboration and support among entrepreneurs.

Participants: Entrepreneurs (90% alumni).

Pedagogical methods: Presentations to investors in weekly events, workshops and training, follow-up meetings, entrepreneurs give and receive feedback, entrepreneurs provide support to students.

EAccelerator. ESADE Business School

Description

EAccelerator is a global intensive program that aims to identify and support high-growth ideas, and enhance the efficient development of entrepreneurial projects. For three months, professors, researchers and entrepreneurs guide participants to help them further develop their ideas. Week after week, they give students challenges and objectives that the latter will have to complete to make their business a reality. When the three months are over, students present their projects at the Demo Day Final, an important event in which various investors sit in on the presentations and meet up with the teams whose ideas they liked the most to discuss possible investment terms.

Participants: Students and alumni.

Pedagogical methods: Mentors who support investment through a business angels network.

EFounders' Meetups. ESADE Business School*Description*

The EFounders' Meetups are a series of meetings, held biweekly, that bring together founders, investors, advisors, experts and people that is looking to start up a company or to work for an high growth venture to provide support, exchange ideas and have a networking opportunity.

Participants: ESADE Students or recent graduates, or teams with at least one ESADE Student/recent graduate as a founder.

Pedagogical methods: Presentation and feedback.

We grow. IESE Business School*Description*

WeGrow is a growth mentoring program that connects startups promoted by young entrepreneurs of IESE with a prestigious network of mentors, who share their knowledge and experience with the entrepreneurs. During 9 months, 3 mentors support each startup.

The objective of the program is to share the experience and knowledge of the whole community of IESE with young entrepreneurs, who create jobs and wealth through their effort, creativity and innovation. The program is a win-win personnel exchange process in which both the mentee and the mentor acquire knowledge and experience.

Participants: Startups created by Alumni with a clear business model.

Pedagogical methods: Mentoring.

IE venture network. IE Business School

Description

IE venture network offers a specific training with professionals, experts in the area. Through mentorship, participants have regular meetings with experts from large companies.

The ultimate goal of the network is to generate networks of entrepreneurs, investors and companies. Students learn how to present their ideas, entrepreneurs get funding and attract external investors and investors get projects.

Participants: Entrepreneurs, students and investors.

Pedagogical methods: Mentoring and idea presentation forum.

Venture days. IE Business School

Description

IE Venture Days are events hosted worldwide that bring together both influential investors and aspiring entrepreneurs looking for funding. Ten startups present their proposal to investors, entrepreneurs and opinion leaders. Over the last four years the best startups created by IE students and alumni have received 12 million Euros in funding at Venture Day Madrid events.

This initiative aims at helping alumni entrepreneurs raise funding and generate relationships with investors (receive feedback, improvements, prize).

Participants: IE Alumni, investors, prospective students.

Pedagogical methods : Keynote speakers, round tables, presentations of startups.

Business Angels Network. IESE Business School*Description*

The Business Angels Network is a platform bringing together entrepreneurs seeking financing and investors seeking promising entrepreneurs and early stage companies for investment on an individual basis. The Network's mission is to facilitate investment opportunities for its members by providing networking forums for the exchange of ideas and experiences and on-going educational opportunities for its members.

The Network's role includes selecting projects, facilitating matchmaking between entrepreneurs and investors through forums and other activities, fostering networking among private investors and contributing to learning and exchange of experiences.

Participants : IESE alumni and any entrepreneur or investor.

International Search Fund Conference. IESE Business School*Description*

The International Search Fund Conference is designed to introduce the funded search model to aspiring entrepreneurs and investors interested in a new entrepreneurial investment model. This event includes opportunities for search fund entrepreneurs to meet with their investors, and investors to meet with each other and with different international searchers and to learn more about searches.

The ultimate goal is to support entrepreneurs and investors from around the world who are engaged in search funds. Through their research, events, and network, they try to understand the specific challenges of search funds and provide resources to help entrepreneurs and investors make their decisions and successfully engage in this form of entrepreneurship.

Participants: aspiring entrepreneurs and investors.

RECOMMENDATIONS

Based on the data gathered through the best practices and the interviews, the following recommendations are proposed aiming at improving entrepreneurial education in Business Schools.

Regarding **entrepreneurship awareness and information**, students' involvement is seen as a critical element. Business Schools could foster interaction with students through close, informal events, and involving them in the organization of entrepreneurship activities through students associations.

The relationship with other entrepreneurship support institutions and the whole entrepreneurial ecosystem is another important aspect for improving awareness and information. Synergies between students, institutions, investors and companies can be generated through events and project presentations.

Offering real entrepreneur role models is seen as a key factor to support entrepreneurship. These models should be supported by research and close to the students. Cases and real experiences from Alumni and close entrepreneurs could serve as models.

With respect to **specialization programmes**, these initiatives should include a change of attitudes, and provide specific training and support on overcoming the fear of failure and fostering self-confidence.

Training programmes should also include close and practical examples, in order to get closer to the reality of entrepreneurship, through presentations of Alumni and close entrepreneurs, and analysing real-life cases.

The structure of the courses should be dynamic and adapted to the students, offering common basic skills to all students, and giving the opportunity to go deeper and receive support to those interested in entrepreneurship. Moreover, including teaching-learning strategies such as workshops and role plays could help generate real-life experiences.

Having the support of committed and experienced mentors seems to be another relevant factor. Mentors provide support to students, which is a valuable resource for potential entrepreneurs.

Regarding professors, experience in academia and personal experience as entrepreneurs or investors is needed in order to develop research-based knowledge and serve as role models.

In relation to **orientation and support for entrepreneurs**, Business Schools should offer an adequate space for entrepreneurs to develop their projects, a space really thought for entrepreneurs, close and dynamic, where startups work together and support each other. Furthermore, a good location and prestige of the institution is seen as a key factor to attract companies and investors.

Startup selection should be comprehensive and include a serious feasibility analysis to ensure the quality of projects. Emphasizing in project scalability and supporting global projects that can be internationalized should be a priority.

Regarding support and training for entrepreneurs, specific training courses should be offered adapted to the needs of the entrepreneurs, and professors and mentors should monitor and provide support to entrepreneurs.

Finally, Business Schools should support entrepreneurs in the search of financial resources, by organizing events where entrepreneurs present their projects to investors and companies, and devoting efforts to connecting entrepreneurs and support institutions.

CHECKLIST BASED ON RECOMMENDATIONS

Entrepreneurship awareness and information

- Does your Business School involve students?
 - Students interact through close, informal events
 - Students participate in the organization of entrepreneurship activities through students associations.
 - The Business School organizes Project presentation sessions
- Does your Business School develop relationships with other entrepreneurship support institutions and the whole entrepreneurial ecosystem?
 - The Business School collaborates with relevant agents of the entrepreneurial ecosystem.
 - The Business School connects students/entrepreneurs and support institutions.
- Does your Business School offer adequate entrepreneurial models?
 - The Business School considers research-based models.
 - The Business School seriously considers the strength of the entrepreneurial team.

Specialization courses

- Do the programmes foster a change of attitudes ?
 - The training Programmes include overcoming the fear of failure.
 - The training programmes include fostering self confidence.
- Do the programmes show close and practical examples ?
 - The courses include case studies from Alumni and close entrepreneurs.
 - The courses include real experiences from Alumni and close entrepreneurs.
- Do the programmes offer a dynamic structure, adapted to the student?
 - The programmes offer common basic skills to all students.
 - The programmes give the opportunity to go deeper and receive support to those interested in entrepreneurship.

- There are flexible programs (workshops, role plays) aimed at generating real-life experiences.
- Do the programmes include committed and experienced mentors?
 - Mentors monitor and provide support to students, a valuable resource for potential entrepreneurs.
- Do the professors have experience in both academia and as entrepreneurs/investors?
 - % of Academic professors: _____
 - % of Entrepreneurs/Investors: _____
 - % of Academic/Entrepreneurs: _____

Orientation and support for entrepreneurs

- Does the business school offer a space for entrepreneurs ?
 - The space is really thought for entrepreneurs.
 - There is a close and dynamic habitat.
 - Startups work together and support each other.
 - Good location and prestige to attract companies and investors.
- Do the entrepreneurs receive support and training?
 - Professors/mentors monitor and provide support to entrepreneurs.
 - The Business School offers training in specific areas.
- There is a comprehensive selection of startups (valuable projects)
 - Feasibility analyses are made to ensure the quality of projects.
 - Projects are scalable.
 - Projects are global and can be internationalized.
- Does the Business School support entrepreneurs in the search of financial resources?
 - The Business School organizes events where entrepreneurs present their projects to investors and companies.
 - The Business School connects students/entrepreneurs and support institutions.

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APPENDICES

APPENDIX 1 : INTERVIEW GUIDE

1. *Best practices of your institution for entrepreneurship awareness courses*

1.1. Best practice 1

- Who is it for? (students, practitioners, entrepreneurs)
- What are the objectives?
- Which pedagogical methods are employed?
- What are the expected outcomes/impact?
- What is the added value of the practice?

1.2. Best practice 2

- Who is it for? (students, practitioners, entrepreneurs)
- What are the objectives?
- Which pedagogical methods are employed?
- What are the expected outcomes/impact?
- What is the added value of the practice?

1.3. From your experience, is there any recommendation you could offer to improve entrepreneurship awareness initiatives in Business Schools?

2. *Best practices of your institution oriented to specialization courses (MBA, tracks, concentrations...)*

2.1. Best practice 1

- Who is it for? (students, practitioners, entrepreneurs)
- What are the objectives?
- Which pedagogical methods are employed?
- What are the expected outcomes/impact?
- What is the added value of the practice?

2.2. Best practice 2

- Who is it for? (students, practitioners, entrepreneurs)
- What are the objectives?
- Which pedagogical methods are employed?
- What are the expected outcomes/impact?
- What is the added value of the practice?

2.3. From your experience, is there any recommendation you could offer to improve the way specialization courses are structured in Business Schools?

3. *Best practices of your institution for orientation and support of entrepreneurs (business plans, mentoring...)*

3.1. Best practice 1

- Who is it for? (students, practitioners, entrepreneurs)
- What are the objectives?
- Which pedagogical methods are employed?
- What are the expected outcomes/impact?
- What is the added value of the practice?

3.2. Best practice 2

- Who is it for? (students, practitioners, entrepreneurs)
- What are the objectives?
- Which pedagogical methods are employed?
- What are the expected outcomes/impact?
- What is the added value of the practice?

3.3. From your experience, is there any recommendation you could offer to improve this type of initiatives in Business Schools?

APPENDIX 2 : LIST OF INTERVIEWEES

Spain

Daniel Soriano. Director of the Entrepreneurship & Innovation Center. IE Business School.

Julia Prats. Head of the Entrepreneurship Department. IESE Business School.

Mercè Saura. Manager of ESADE Entrepreneurship Institute. ESADE Business School.

the 1990s, the number of people with diabetes has increased in all industrialized countries, and this increase is continuing at a rapid rate.

Diabetes is a chronic disease, and the long-term complications of diabetes are a major cause of morbidity and mortality. The most common complications are retinopathy, nephropathy, neuropathy, and cardiovascular disease. The prevalence of these complications increases with the duration of diabetes and the degree of glycaemic control.

The aim of this review is to discuss the pathogenesis of the long-term complications of diabetes and to review the current management strategies to prevent or delay the onset of these complications. The review is divided into four sections: retinopathy, nephropathy, neuropathy, and cardiovascular disease. Each section discusses the pathogenesis of the complication, the clinical features, and the current management strategies.

Retinopathy is a common complication of diabetes, and it is the leading cause of blindness in industrialized countries. The prevalence of retinopathy increases with the duration of diabetes and the degree of glycaemic control.

The pathogenesis of retinopathy is not fully understood, but it is thought to be related to the hyperglycaemia and the associated changes in the retinal vasculature. The hyperglycaemia leads to the formation of advanced glycation end products (AGEs), which are thought to be involved in the pathogenesis of retinopathy.

The current management strategies to prevent or delay the onset of retinopathy are based on the control of glycaemia and blood pressure. The use of intensive glycaemic control has been shown to reduce the risk of retinopathy in patients with type 1 diabetes. The use of angiotensin-converting enzyme (ACE) inhibitors has also been shown to reduce the risk of retinopathy in patients with type 2 diabetes.

Nephropathy is a common complication of diabetes, and it is the leading cause of end-stage renal disease in industrialized countries. The prevalence of nephropathy increases with the duration of diabetes and the degree of glycaemic control.

The pathogenesis of nephropathy is not fully understood, but it is thought to be related to the hyperglycaemia and the associated changes in the glomerular vasculature. The hyperglycaemia leads to the formation of AGEs, which are thought to be involved in the pathogenesis of nephropathy.

The current management strategies to prevent or delay the onset of nephropathy are based on the control of glycaemia and blood pressure. The use of intensive glycaemic control has been shown to reduce the risk of nephropathy in patients with type 1 diabetes. The use of ACE inhibitors has also been shown to reduce the risk of nephropathy in patients with type 2 diabetes.

Neuropathy is a common complication of diabetes, and it is the leading cause of disability in industrialized countries. The prevalence of neuropathy increases with the duration of diabetes and the degree of glycaemic control.

The pathogenesis of neuropathy is not fully understood, but it is thought to be related to the hyperglycaemia and the associated changes in the peripheral nerves. The hyperglycaemia leads to the formation of AGEs, which are thought to be involved in the pathogenesis of neuropathy.

The current management strategies to prevent or delay the onset of neuropathy are based on the control of glycaemia and blood pressure. The use of intensive glycaemic control has been shown to reduce the risk of neuropathy in patients with type 1 diabetes. The use of ACE inhibitors has also been shown to reduce the risk of neuropathy in patients with type 2 diabetes.

Cardiovascular disease is a common complication of diabetes, and it is the leading cause of mortality in industrialized countries. The prevalence of cardiovascular disease increases with the duration of diabetes and the degree of glycaemic control.