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ENTREPRENEURSHIP, METHODOLOGIES IN HIGHER EDUCATION

An Experience in a Portuguese Business School

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ABSTRACT

Today entrepreneurship education is an important issue to improve the process of creating new firm assuming new risks and rewards. The theoretical discussion about around the question: “Entrepreneurs are born or made?” assume that is possible educate to be entrepreneurs. Schools have an important role in this process.

Believing in this possibility our Business School developed a set of pedagogical methodologies supported in apprenticeship based on “learning by doing”. This pedagogical methodology was created through a study of best practices.

This study aims to propose a set of innovative methodologies and students perceptions about their apprenticeship experience/process.

The study concludes with a set of recommendations and a best practices manual useful to appliance in higher education.

KEY-WORDS: Innovative methodologies; entrepreneurship education; learning by doing

1. Introduction

The crucial importance of entrepreneurship in promotion of economic growth, competitiveness and job creation put it into authorities and company's concern all over the world. Entrepreneurial activities have increase importance within a knowledge-based world economy. Acting as agents of innovation entrepreneurs are the key player of entrepreneurship process.

Since entrepreneurship skills can be developed and improved thought people life, educational system, particularly Higher Education Institutions, assumes an important role in taught people to be entrepreneurs, developing in students essential skills, capabilities and attitudes towards entrepreneurship, which can contribute for entrepreneurial behaviours both venture creation and intrapreneurship.

Be an entrepreneur implies practice activities. In this context, active pedagogical methodologies must be applied to teach entrepreneurship in perspective "learning by doing". Entrepreneurship signature in Setúbal Business tries to implement this perspective in their pedagogical model. The second part of this paper describes and evaluates this experience.

Consequently this study has several aims: evaluate if the activities in classroom and other extra activities contribute to satisfactory results in entrepreneurship learning process; analyse students' perspective about the methodology learning by doing; appreciate if the activities and resources available are adequate to the methodology applied, and verify if curricula unit evaluation was well accepted by the students.

This paper is divided in two parts. The first part includes a conceptual approach based in literature review, and the second part presents an empirical study developed in a Portuguese Business School - Polytechnic Institute of Setúbal.

PART I – Theoretical Discussion

Entrepreneurship is a crucial element for every country that aims to be competitive and developed within knowledge-based world economy. In "Green Paper on Entrepreneurship in Europe" (2003a) European Commission defines entrepreneurship as "the mindset and process to create and develop economic activity by blending risk-taking, creativity and/or innovation with sound management, within a new or an existing organisation". European authorities actually include entrepreneurship in those political objectives, since it is seen as a driver for economic growth, competitiveness and job creation. In the long run terms, entrepreneurship may also contribute for economic and social development¹. The Global Entrepreneurship Monitor study identifies a "systematic relationship" between the level of economic development and entrepreneurial activities (GEM, 2007).

Entrepreneurial activity is a direct result of an "individual's perception about the existence of market opportunities, capacity and economic viability of those business opportunities" (GEM, 2002). Entrepreneurs are the role player of the entrepreneur process. Acting as agents of innovation, they can increase competitiveness and market efficiency by exploring new business opportunities and offering new and innovative products and services. Entrepreneurs are opportunists in the way that they see business opportunities where no else can and they take advantage of an apparently common business.

Entrepreneurial behaviour, particularly in case of new firms creation, can be motivated by different reasons: there are situations where an individual observe and want to explore a business opportunity (opportunity entrepreneurship); and others where an unemployment situation or unsatisfactory work pushed him into entrepreneurship (necessity entrepreneurship). In the first case entrepreneur believes that could obtain higher returns than with an alternative occupation, while in the second case is the lack of alternative, at least a satisfactory alternative, which becomes the imperative need that required being satisfied.

Last GEMs study which includes Portugal indicates that in 2004 we have the lowest rates of Total Entrepreneurial Activities, among the 34 countries analysed, with a decline from 2001 (GEM, 2005a). This decline was justified not only by economic environment, but also by the fragilities of Portuguese educational system, especially in its approach to business issues and because it lacks of encourage creativity and autonomy. They also refer the national culture where individuals' responsibilities and entrepreneurial risk-taking are not emphasizing (GEM, 2005b). Although the higher wishes of Portuguese to have their own business: Entrepreneurship Eurobarometer 2004 (European Commission, 2004) indicates that 78% of Portuguese wish to have their own business, ranking Portugal in second position among all countries; there

¹ European Commission (2003) refers the importance of entrepreneurship in a variety of issues: job creation and growth; competitiveness; unlocks personal potential; societal interests.

are a lack of concretization maybe due to the entrepreneurial difficulties they have to face allied with fear of failure, reinforcing the negative effects of cultural attitudes on entrepreneurs' decision. The tasks involved in setting up and managing a new firm are complex and requires special skills and competences. Maybe Portuguese realize that they are not well prepared to start-up new business and managing them due to low educational level and to the fact that those basic skills and competences are not properly developed in educational system.

Despite of that negative scenario European Commission (2003a) includes Portugal in the list of best practices in Europe namely in respect of procedures simplification that Business Formalities Centres bring to new firms registration², where entrepreneurs find representatives of all public departments responsible for the different formalities required. Recently the time to set up a new business has been even more reduced with the implementation of *firm in an hour*.

Believing that “entrepreneurship is about people, their choices and actions” (European Commission, 2003b) and depends on entrepreneur characteristics and capabilities, we can argue that Higher Education Institutions assumes an important role in this process, not only as privileged source for business opportunities but also and essentially developing in students essential skills, capabilities and attitudes towards entrepreneurship, which can contribute decisively for entrepreneurial behaviours both venture creation and intrapreneurship. Actually we can observe, in the last years, a special attention to entrepreneur education from Higher Education Institutions (Dana, 2001; Dubbini, Iacobucci, 2004; Fayolle, 1998; Hytti et al, 2002; Katz, 2003; Lüthje, Franke, 2002; Postigo et al, 2003; Roux et al, 2004; Vesper, Gartner, 1997).

European Commission (2003a) emphasizes the key role of education to support the “need to change mindsets for achieving a more entrepreneurial society”³. They argue that entrepreneurship education should start early at primary school, covering the entire education period and must to be able to developed in students a set of useful skills and capabilities like: curiosity, openness to continuous learning, a proactive attitude, self-reliance, creativity, problem solving, critical thinking and inter-personal skills. Dominguihos et al. (2005) list some attitudes that facilitate the emergence of new firms such as: risk taking, pro-activeness, autonomy, and perception of self-efficacy. We also add the responsibility, decision making, leadership, ambition and self-confidence as fundamental characteristics in entrepreneurship process.

The question is: Can those characteristics be learned or it has to be born with entrepreneur? The theoretical discussion about around the question “Entrepreneurs are born or made?” The source of entrepreneurship is a topic largely discussed around the world, not only in academic research but also in several Internet discussion forums.

There are two different approaches about what made an entrepreneur: the first is that entrepreneurship is something that can be learned and anyone can become an entrepreneur if they really want to; the second is that a successful entrepreneur has internal capabilities that are independent of training or experience and are restricted just to some special persons.

According to the first one approach, called *demand* theory, anybody is born entrepreneur, in contrast all entrepreneurship skills can be taught through training and experience. Every apprenticeships and experiences along our live contributes to prepare us with different levels of entrepreneurial capabilities. Entrepreneurship is no different from others career choices, the skills needed to start up and managing a business can be learned just as the skills necessities to be an engineer or a doctor.

On the other hand, the *supply* theory, argue that genetic factors determines the likelihood to become an entrepreneur or self-employed. Not anyone can be an entrepreneur, just some type of persons which have natural born characteristics, enable them to face all challenges related with the long and hard entrepreneurship process. Only certain people have the personality traits that makes possible to become into a successful entrepreneur.

There are no characteristics or skills that guarantee new venture success, as well as there is no single list of characteristics and skills beyond each approach above developed. The secret to be an entrepreneur is to have the proper mix of those capabilities, independently of being *in-born* or *learnable*. We believe that successful entrepreneurs are not born nor even made, are both! They must engage their natural elements and characteristics with all other skills and capabilities required to drive the business, which can be learned and improved through training and experience. Even the personality traits are flexible and can be changed and developed throughout people life, as much as they are formed based on external factors such as culture, environment and social issues.

² European Commission (2003a) refers to Portuguese Business Formalities Centres as a *one-stop-shop* for creating a firm.

³ Dominguihos and Carvalho (2006) also refer that the education for entrepreneurship should promote a more entrepreneurial society.

According to this point of view, our argument is that education system in general and Higher Education Institutions in particular must assume their crucial role of taught people to be entrepreneurs, contributing to develop and improve the entrepreneurship skills that can be learned or even teaching students to use their innate capabilities in favour of their own business success. Since the entrepreneurial spirit is an important advantage in all careers, this is also relevant to those students who will prefer to be an intrapreneur within an established company.

Schools have to promote a more entrepreneurial spirit in the students preparing them for careers in entrepreneurship, not only in specific courses programmed to train entrepreneurs, but in all academic courses to develop entrepreneurial mindsets with the greatest aims of a more entrepreneurial society. All over the world we may assist an increase of courses offering instruction in this area, claiming for benefits of entrepreneurship. Those offers focalize essentially in business plan and functional skills development (Ribeiro et al, 2005; Dubbini, Iacobucci, 2004; Hytti et al, 2004).

We can identify very different positions concern to entrepreneurship education. Hytti et al (2004) refer some basics issues in entrepreneurship education: education for entrepreneurial attitudes and skills development; training for venture creation; and entrepreneurship as a possible career choice. Henry et al (2005) refer the three categories identified by Jamieson concerned with entrepreneurship education and training: education *about* the firm; education *to* the firm; end education *in* the firm. In the first one the main objective is to increase people’s knowledge *about* start-up process; in the second category apprenticeship process based on skills and attitudes required *to* business management; and the last one, education *in* the firm, for a more specific target of entrepreneurs established, to improve their skills contributing to business sustainability.

European Commission (2003b) indicates “proposals for action focus on three main areas: direct exposure to entrepreneurship and the world of business, fostering entrepreneurial attitudes and skills, and finally training teachers”. Those actions are only possible in a practical approach of apprenticeship based on “learning by doing” methodologies, which allows students learning from each other, an opposite teaching method when compared with the traditional didactic model, as we can observe in the following table:

| Table 1 - Teaching methods | |
|--|--|
| Didactic model | Learning from each other |
| Learning from teacher alone | Learning from each other |
| Passive role as listener | Learning by doing |
| Learning from written texts | Learning from personal exchange and debate |
| Learning from “expert” frameworks of teacher | Learning by discovering (under guidance) |
| Learning from feedback from one key person (the teacher) | Learning from reactions of many people |
| Learning in well organized, timetable environment | Learning in flexible, informal environment |
| Learning without pressure of immediate goals | Learning under pressure to achieve goals |
| Copying from others discouraged | Learning by borrowing from others |
| Mistakes feared | Mistakes learned from |
| Learning by notes | Learning by problems solving |

Fonte: Duchéneaut, 2001: 133

There are needed active and innovative pedagogical methodologies where students are strongly involved so that they can feel as a part of apprenticeship process. Those active methodologies include entrepreneurial community’s involvement: bring entrepreneurs to the classroom to talk about their experiences, contact with local entrepreneurs, company visits, involve local business organizations in curricula’s design, offer workshops and seminars, invite business angels and risk capitalists. Additionally a several actions taken by students should be encouraged: organization of seminars by students, development of case studies by students and present them to community, ideas brainstorming or ideas bookkeeping where students list and discuss all ideas identified, business plan development and on-the-job training into real or virtual enterprises or incubators.

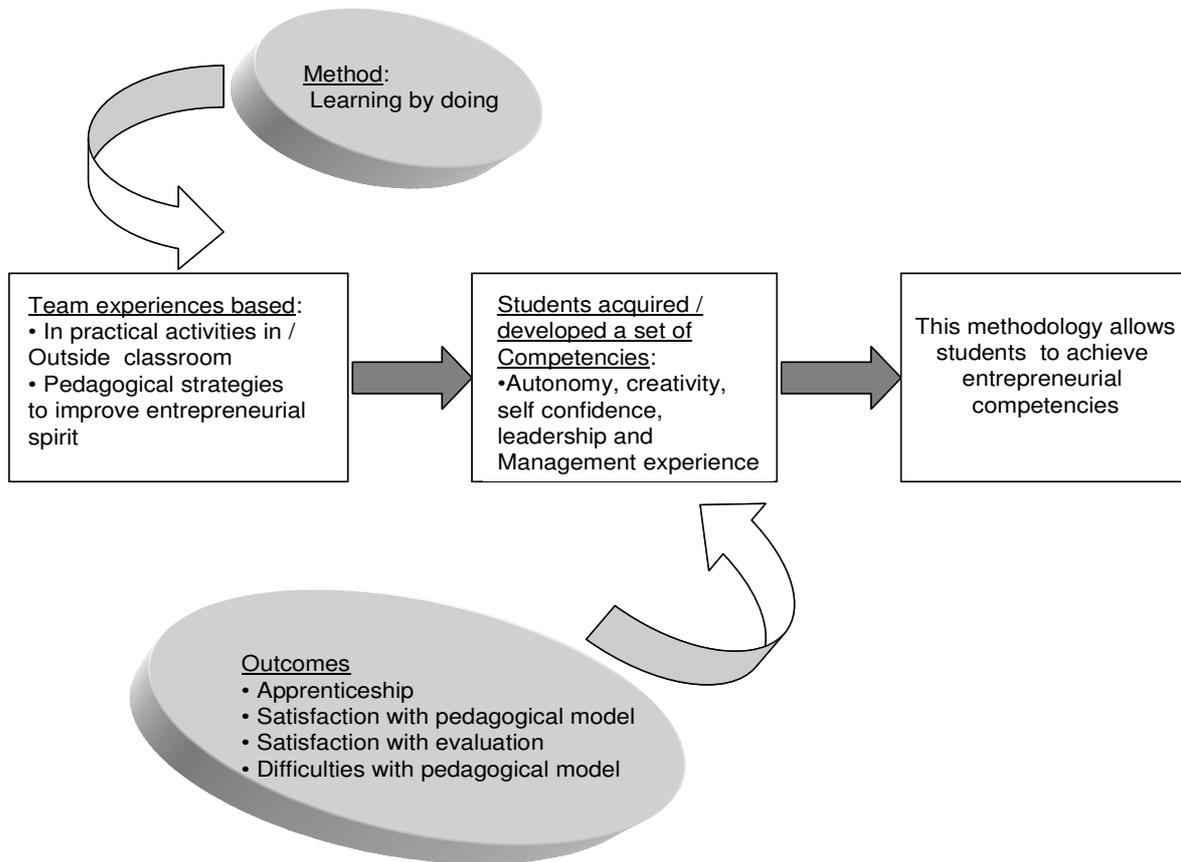
The next section presents an experience developed in a Portuguese Business School, in Polytechnic Institute of Setúbal, where we tried to implement some of those active pedagogical methodologies in an Entrepreneurship course instructed to students of first degrees in Human Resources Management and Finance and Accountability.

PART II- Empirical Study

1. Conceptual Model

The conceptual model was built in order to support the empirical study. The methodology “learning by doing” allow that students learn through team experiences, that allow students to acquired or develop a set of entrepreneurial competencies. This conceptual pedagogical model was evaluated according with a set of outcomes (see figure 1).

Figure 1- Conceptual Model



2. Hypothesis

According with literature review and conceptual model, this research has the following hypothesis:

- H1: The activities in classroom contributes to satisfactory results (scale higher or equal to 3) concerning apprenticeship and satisfaction.*
- H2: Other activities contributes to satisfactory results (scale higher or equal to 3) concerning apprenticeship and satisfaction.*
- H3: Using methodology learning by doing in the students perspective is easy and friendly (scale less and equal to 3).*
- H4: The activities and resources available are adequate to the methodology applied (scale higher or equal to 3).*
- H5: The curricula unit evaluation was well accepted by the students (scale higher or equal to 3).*

3. Methodology

To test our hypothesis we use several variables. The data analysis was based in descriptive statistics supported in the inquiry results. The inquiry was made (annex 1) to entrepreneurship class students, at the end of the first semester of this school year (2007-2008).⁴ The scale applied in inquiry was comprehends items between 1 and 5.

The variables used for curricula unit evaluation were:

- Class Activities (CA);
- Didactical Resources (DR)
- Time required per activity (TRA)
- Activity “Entrepreneur for a day”⁵ (AEFD)
- Efficacy of “learning by doing” (ELD)
- Efficiency e-learning platform ⁶(EEEP)
- General evaluation (GE)

CA, DR, TRA, AEFD, ELD and EEEP are scale variables. GE is a nominal variable.

The variables used for apprenticeship degree, satisfaction degree and difficulty degree concerning class activities were:

- Discovery group⁷ (DG)
- Entrepreneur picture ⁸(EP)
- Unexpected questions⁹ (UQ)
- Ideas Brainstorming¹⁰ (IB)
- Business Plan (BP)

DG, EP, UQ, IB and BP are scale variables.

The variables used for apprenticeship degree, satisfaction degree and difficulty degree concerning other activities were:

- Activities planning (AP);
- Internal resources availability (IRA);
- External resources availability (ERA);
- Sponsors collecting¹¹ (SC);
- Guest events invitation ¹²(GEI).

AP, IRA, ERA, SC and GEI are scale variables.

⁴ This is an optional curricula signature in this semester.

⁵ In one part of the day students must create a business a sell a good or a service, attending to the initial investment, local to sell, marketing strategy, stock management; price policy. And at the end of the activity must do a report with a including what they learn and what was the major difficulties of the task.

⁶ Moodle (www.moodle.com)

⁷ This activity take place in the first lesson of the semester, where the students must complete a set of questions with the name of other students in order to improve group spirit and group cohesion.

⁸ Students in teams must made a entrepreneur picture, whose reveals the main characteristics of entrepreneurs and explain their poster to the class in order to extract the more refereed entrepreneurs characteristics in a constructivist perspective.

⁹ Each student answer to an very unexpected question in order to develop competencies to changed environments and the capability to decide in short time.

¹⁰ Using a material, in this case we used a box, students must made a brainstorming of at least 20 ideias and at the end of the task voting the best idea and develop business plan about this idea.

¹¹ Were developed two activities involving entrepreneurs and other stakeholders: a business drink and a seminar about entrepreneurship and new technologies. Business drink allows contacts with entrepreneurs in a informal environment and seminar permits comes to the school entrepreneurs and others stakeholders. In this context, students was responsible to achieve sponsors to financing costs of the events

¹² Students promote the guests invitations and mobilize their social capital in order to present at least a name of a person able to comes to the school participate in the events.

4. Results

General characteristics

This section presents the principal results about a set of student's characteristics. The signature has about thirty-five students and the inquiry was answered by 60% of the students. Figure 2 illustrate that the majority of students are female.

Figure 2- Gender

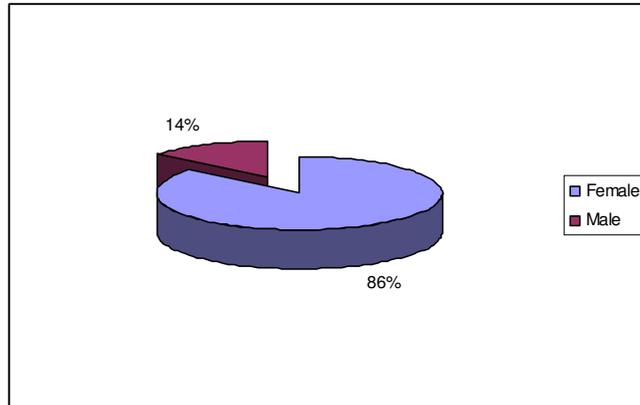


Figure 3 demonstrate that the majority of students have less than 25 years old. The weight of students with more than 36 year is the second more representative and includes the post-labour students.

Figure 3 – Age

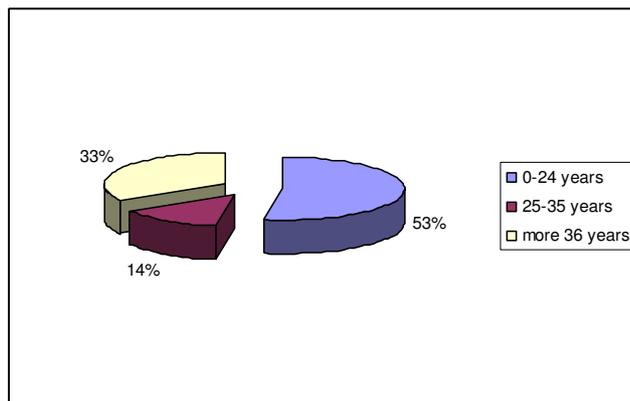
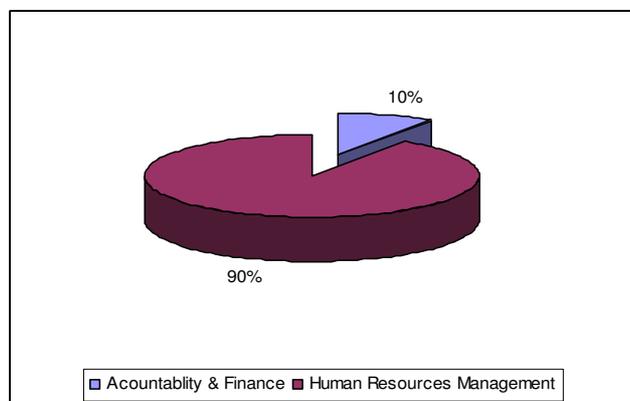


Figure 4 reveals a predominance choice of this signature by the students from Human Resources Management.

Figure 4- Graduate Course



Statistical results

This section pretends to present the main statistical results of the inquiry in order to confirm or refuse the hypotheses announced in the study.

The General Evaluation of the signature was 4, and the value of standard deviation is 0,79, and all students affirm that they will recommend the frequency of this signature to other students. All students (100%) express satisfaction with evaluation system, confirming partially *H5: The curricula unit evaluation was well accepted by the students.*

Concerning curricula unit information the statistical analysis reveals that in all items concerning “Curricula Unit Information” the mean is higher or equal than 3. The higher value of standard deviation is higher in variable “Activity Entrepreneur for a day” (AEFD) and “Efficiency e-learning platform” (EEEP). This variability can be explained through the results differences obtained from students in regular classes and post-labour regime students. The first ones accepted the activity with more enthusiasm and availability than the others did.

These results allow the confirmation of *H3: Using a methodology learning by doing in the students perspective is easy and friendly (scale less and equal to 3- ELD=4)* and *H4: The activities and resources available are adequate to the methodology applied (scale higher or equal to – CA, DR, TRA, AEFD and EEEP >=3).*

Table 2- Curricula Unit Information

| | 1. Curricula Unit Information | | | | | |
|--------------------|-------------------------------|------|------|------|------|------|
| | CA | DR | TRA | AEFD | ELD | EEEP |
| Mean | 4 | 3 | 4 | 4 | 4 | 3 |
| Standard Deviation | 0,65 | 0,59 | 0,72 | 1,00 | 0,97 | 1,02 |

The Table 3 highlights that students consider that this methodology consent to higher degree of apprenticeship and satisfaction in classroom activities. In all items the mean is equal to 4 and the standard deviation is relatively low, confirming *H1: The activities in classroom contributes to satisfactory results (scale higher or equal to 3) concerning apprenticeship and satisfaction.*

Table 3- Classroom Activities

| | Classroom Activities | | | | | | | | | | | | | | |
|--------------------|--------------------------|------|------|------|------|------------------------|------|------|------|------|----------------------|------|------|------|------|
| | 2. Apprenticeship degree | | | | | 3. Satisfaction degree | | | | | 4. Difficulty degree | | | | |
| | DG | EP | UQ | IB | BP | DG | EP | UQ | IB | BP | DG | EP | UQ | IB | BP |
| Mean | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 4 | 3 | 3 | 3 | 3 | 3 | 3 |
| Standard Deviation | 0,75 | 0,73 | 0,81 | 0,77 | 0,83 | 0,88 | 0,93 | 0,76 | 0,97 | 0,99 | 1,06 | 0,84 | 1,12 | 0,99 | 0,88 |

Regarding the other activities this previously refereed (degree of apprenticeship and satisfaction) are majority higher than 3. These results confirm *H2: Other activities contribute to satisfactory results (scale higher or equal to 3, AP, IRA, ERA, SC and GEI >=3) concerning apprenticeship and satisfaction.* (Table 3).

Table 4- Other Activities

| | Other Activities | | | | | | | | | | | | | | |
|--------------------|--------------------------|------|------|------|------|------------------------|------|------|------|------|----------------------|------|------|------|------|
| | 5. Apprenticeship degree | | | | | 6. Satisfaction degree | | | | | 7. Difficulty degree | | | | |
| | AP | IRA | ERA | SC | GEI | AP | IRA | ERA | SC | GEI | AP | IRA | ERA | SC | GEI |
| Mean | 4 | 4 | 3 | 4 | 3 | 4 | 3 | 5 | 4 | 2 | 2 | 3 | 3 | 3 | 4 |
| Standard Deviation | 0,75 | 0,51 | 0,74 | 0,86 | 0,75 | 0,92 | 0,81 | 0,75 | 0,89 | 0,98 | 0,93 | 1,18 | 0,81 | 0,83 | 0,81 |

Both Tables 3 and 4, in what concern difficulty degree permits to confirm *H5: The curricula unit evaluation was well accepted by the students (scale lower or equal to 3, AP, IRA, ERA and SC <=3, except GEI variable that is higher than 3).* This exception proves that students from 2nd and 3rd years of degree reveals needs in improving competencies related with communication, autonomy and self-confidence in their relations with external environment, including stakeholders.

5. Concluding Remarks

Recognising the entrepreneurship education as an important issue in economic growth promotion, competitiveness and job creation, in this paper we tried to present a theoretical discussion about around the question: “Entrepreneurs are born or made?” We conclude that entrepreneurs are not born nor even made, they are both! To become into a success entrepreneur people have to engage their natural characteristics with all other skills that can be learned and improved through training and experience. There are no specific characteristics or skills driving us to business success. The secret to be an entrepreneur is to have a proper mix of those capabilities, independently of being *in-born* or *learnable*.

We believe that majority entrepreneurship skills can be developed and improved through people's life and that Higher Education Institutions, in particular, assume a crucial importance in teaching students to be entrepreneurs, both new venture creation and intrapreneurship, by the way that they can contribute to develop essential skills, capabilities and attitudes towards entrepreneurship.

In entrepreneurship education, such as in other education areas, there are needed active and innovative pedagogical methodologies where students are strongly involved so that they can feel as part of an apprenticeship process, which also includes entrepreneurial community's involvement, as well as the encouragement of several actions to be taken by students that allows contact with the real business world.

In the empirical study we present an experience developed in a Portuguese Business School, in Polytechnic Institute of Setúbal, where we tried to implement some of those active pedagogical methodologies, based on “learning by doing” method, in an Entrepreneurship course. There were developed various class activities, supported by a set of didactical resources, including an e-learning platform. Class activities include discovery group, entrepreneur picture, unexpected questions, ideas brainstorming and business plan, some times in a context of case studies discussion. Additionally, some other extra class activities were prepared such as: entrepreneur for a day activity, a seminar organized by students and business drink sessions, with the presence of invited entrepreneurs.

The present study had several aims: evaluate if the activities in classroom and other extra activities contribute to satisfactory results in entrepreneurship learning process; analyse students' perspective about the methodology learning by doing; appreciate if the activities and resources available are adequate to the methodology applied, and verify if curricula unit evaluation was well accepted by the students.

The results of empirical study highlight the importance of this kind of learning in the theoretical perspective following in this research learning by doing and allows to confirm all hypotheses except in one item (H5) that was only partially confirmed:

- 1) The activities in classroom, based on active pedagogical methodologies, contribute to satisfactory results concerning entrepreneurship learning and student's satisfaction.
- 2) Other similar extra class activities also contribute to entrepreneurship learning and student's satisfaction.
- 3) The methodology used – learning by doing – is, in the students perspective, easy and friendly.
- 4) The activities developed and resources available were considered by students adequate to the methodology applied.
- 5) Students express satisfaction with evaluation system, confirming that the curricula unit evaluation was well accepted by the students, except concerning with satisfaction and difficulties involved with guest events invitation and activities planning. This exception proves that students need to improve their competencies related with communication, autonomy and self-confidence in their relations with external environment, including stakeholders.

Based on those results we may recommend the use of learning by doing method in entrepreneurship education and training, by the way that it reveals more efficient in apprenticeship when compared with other traditional teaching methods. Learning from each other, in a flexible way and informal environment, based on problems solving, discussing alternatives and learning from mistakes allows students develop and improve skills, capabilities and attitudes important in their future careers choices including or not entrepreneurship.

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