ENTREPRENEURIAL PROFILE: An Investigation of Undergraduate Students in Brazil

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ABSTRACT

This article had as it main objective to understand how the variables of teaching-learning activities and characteristics of the entrepreneurial profile are exercised in undergraduate programs of Business Administration and Accounting. This study relates a survey conducted in Curitiba/Brazil, among 279 students of Business Administration and Accounting programs, from four different private and public colleges. For such was used a Likert scale with 20 indicators, based on Filion(1999), of the characteristics of entrepreneurial profile. The results suggest that the students differ in their perceptions related to the teaching-learning process and characteristics of the entrepreneurial profile developed at the undergraduate program. Some of the characteristics of entrepreneurial profile that differ by programs are: innovation, propensity to take risks, tolerance to ambiguity and uncertainty, ability to conduct situations and creativity. The question in essence is the necessity of having an approach compatible to the specificity of each program.

Keywords: *entrepreneurship; teaching-learning activities; entrepreneurial profile*

1 INTRODUCTION

Thinking over the challenges of management and the role it represents today, it is considered a primary need and a vital function for organizations, facing the worldwide context where it is possible to acknowledge consistent changes into social, cultural and economic areas. Involved by this context of constant needs of change in the society, universities also face the challenges of searching for new answers and orientations facing the postures established by the pillars of education (Dilts & Fowler, 1999). It becomes vital to identify which aspects or environmental characteristics of the university are the promoters of the enterprising development process through a structural and pedagogical support to the students enterprising profile.

This study seeks to understand how the variables of teaching-learning activities and characteristics of the entrepreneurial profile are exercised in undergraduate programs of Business Administration and Accounting.

The present study aims to verify the following objectives:

a) Check whether the students' perception of the Business Administration and Accounting programs about the characteristics of entrepreneurial profile differs depending on the program of which it is part;
b) check whether the students' perception of the Business Administration and Accounting programs about the level of influence of teaching-learning activities in the formation of the enterprising character differs depending on the program of which it is part;
c) Define the factors that make up the entrepreneurial profile.

The hypotheses of the study are derived from the theoretical framework about teaching-learning activities and entrepreneurial profile being highlighted in italics in the course of the text.

2 REVIEW OF LITERATURE

The contextualization of the present work starts from the discussion of fundamental points to understanding the development of the entrepreneur character of undergraduate students. Thus, some conceptions of the entrepreneurial profile and the role of the university are going to be presented.

2.1 The entrepreneur profile

The initial conception for the word entrepreneurship dates back from the second half of the 18 century. This conception begins with the economists Richard Cantillon and Jean-Baptiste Say, with their concerns about economy, creation of new business and the management of business, ending with the definition of entrepreneurs as people who take risks, for they invested their own money. This concept got a new meaning in 1911 with the publication of the "Theory of Economy Development" by Joseph Schumpeter connecting in a more explicit way for the concept of innovation. Schumpeter (1988) defines the essence of enterprising as a perception and improvement of new opportunities in the business sphere, connected with the creation of new ways to use national resources dislocated from traditional employment and subjected to new combinations.

Entrepreneurship is defined as a complex and multi-faceted process in which the social variety such as social mobility, culture, society; economic, such as market incentives, public policies, risk capital; and psychological aspects, influence the act of enterprising action (Gimenez & Júnior, 2002). For Filion (1999) entrepreneurship are the tangible or intangible results of an individual with creativity skills; as a complex function of life experiences, opportunities and individual capacities and it is inherent a risk condition during its practice, as in his life or career. And according to the author, the entrepreneur is known as: "(...) a creative individual, with the capacity to establish and achieve goals, possessing a higher level of conscience of the context to be able to detect business opportunities, searching for continuous learning regarding to business opportunities and revealing a process of decision making with moderate risks aiming innovation" (Filion, 1999).

Filion (1999) point a discussion of the concept of entrepreneurship. The main item is not to consider someone as being either an entrepreneur or not; but to locate someone in a continuum of people with different degrees of entrepreneurship profile.

This way, studies searching for a measuring of this subjective concept, identifying the attributes that contribute to the development of the entrepreneur profile, are much more relevant. An adequate measuring of the entrepreneurial profile demands a definition of the characteristics that makes up this profile. Several authors (Carland, Hoy & Carland, 1998; Longenecker, Moore & Petty, 1997; Markman & Baron, 2003; Collins, Locke & Shane, 2003; Hisrich & Peters, 2004; Heinonen, Poikkijoki & Vento-Vierikko, 2007) illustrate characteristics that complete an entrepreneurial profile, as shown on chart 01.

Chart 01 – Characteristics of the entrepreneurial profile.

Authors / Characteristics of the entrepreneurial profile.	Innovation	Propensity to take risks	Leadership	Search for opportunities	Self-effectiveness	Planning	Sociable	Need for achievement	Strategic posture	Creativity	Persistent	Optimism	Self-confidence
Brockhaus (1980)		x	x							x			
Schumpeter (1988)	x												
Carland, Hoy & Carland (1998)	x	x			x	x		x	x	x			
Filion (1993; 1999; 2000)	x		x			x							
Timmons (1994)		x		x				x					
Longenecker, Moore & Petty (1997)	x	x	x		x		x						
Chen, Greene & Crick (1998)					x								
Bolton & Thompson (2000)	x			x									
Bruyat & Julien (2000)	x								x				
Dornelas (2001)						x							
Collins, Locke & Shane (2003)								x				x	
Markman & Baron (2003)			x	x	x		x				x		
Hisrich e Peters (2004)		x	x		x	x	x						
Heinonen, Poikkijoki & Vento-Vierikko (2007)													x

Source: Developed by authors.

Carland, Carland & Hoy (1998) characterized the Carland Entrepreneurship Index – CEI as one of the tools to measure the entrepreneurial profile. The CEI uses the personality and preferences of the individual as a basis to determine factors that represent the entrepreneur characteristics profile, such as: personality traits (achievement need and creativity); tendency to innovate; propensity to risks and strategic posture.

For this study we will adopt some behavioral characteristics of the entrepreneurial profile defined by Filion (1999), as shown on chart 02;

Chart 02 – Behavioral characteristics of the entrepreneurial profile.

1. Innovation	11. Ability to conduct situations
2. Optimism	12. Creativity
3. Leadership	13. Accomplishment needs
4. Initiative	14. Sensibilities to others
5. Flexibility	15. Self-conscience
6. Independence	16. Aggressive
7. Tolerance to ambiguities and uncertainty.	17. Confidence
8. Orientation to results	18. Originality
9. Propensity to take risks	19. Long term involvement
10. Capacity to learn	20. Money as a reward measurement

Source: Filion (1999)

From these assumptions, we can establish the first research hypothesis:

H1: students ' perceptions of the Business Administration and Accounting programs about the characteristics of entrepreneurial profile differs depending on the program of which them are part.

2.2 The role of the university in the training of entrepreneurs

According to the report Global Entrepreneurship Monitor Brasil 2000 - GEM: "Providing the individuals with specific education aiming entrepreneurship and training them in skills needed to convert a business opportunity into a successful enterprise, was mentioned in a consistent way as one of the priorities appointed by specialists interviewed in each of the 21 countries" (GEM, 2000).

According to Dornelas (2001) this specific enterprising empowerment has been conducted by entities, schools and universities in Brazil, concerning to the understanding of the entrepreneurial profile; and who this individual might be and how he behaves. Related to the access to entrepreneurship, Dornelas (2001) defends that any individual can learn to be a successful entrepreneur; as it has been a reality in many universities that offers undergraduate, graduate and MBA programs.

For Stevenson & Jarillo (1990) the role of the university as a promoter for the development of the entrepreneur gets more relevance by deciding that is possible to develop the entrepreneurial spirit in the individuals who were offered conditions to improve new skills and increase the ones they already have. The challenge refers not only to changes, nor to teaching itself, but also to the society view of the world. According to Filion (2000) teaching can be the most effective agent of cultural changes, but it is processed according to the changes of generations, consequently, to get the consolidation of an entrepreneurship culture, it will be necessary for university faculty to change their speech in order to go beyond the limits of the university and reach the collective conscience.

2.3 Didactic and pedagogical recommendations for teaching entrepreneurship.

In some universities, the teaching of entrepreneurship is labeled in some courses such as: business plan, small businesses management, entrepreneurship and innovation project, marketing for entrepreneurs and a variety of definitions indicating the entrepreneur's development.

The university can act at the development of an entrepreneur posture in a stage where the substantive components of the pedagogical project and the courses programs should privilege information gathering about the process, development of attitudes and values, adequacy of personal and entrepreneurship characteristics, and the analysis of opportunities and viability of business.

This focus demands faculty to use a variety of teaching methods. When the main objective is to offer the students information about the business start up process, or values and attitudes that need to be present at the business practice, lecture classes and mandatory reading are the most recommended. If the focus is in

developing entrepreneurial behavior, the most adequate strategies are those ones that bring reflection about their own behavior; identify and analyze opportunities; it is considered the methodology for the development of projects as the teaching technique that can bring the best effect.

There are therefore various teaching methods likely to be adopted in the teaching of entrepreneurship. The choice between pedagogical techniques options must be done on the assumption that entrepreneurship education must focus on the development of skills that facilitate decision-making, involving the capacity to innovate, take risks and solve problems.

With this information we assume that programs seeking to develop entrepreneurship need to prioritize activities that demand students' participation, setting the teacher to a secondary role in the process, where the teacher would mediate and guide the process of the learning process (Perrenoud, 2000).

Consequently subjective matters and pedagogical techniques should prevail in courses aiming the development of an entrepreneur posture, revealing the necessity to use strategies that make possible and stimulate the students' participation in the process, turning them into the main character, able to define and manage, in a pro-active way, not only a business but his professional career.

Educational logic permits to adopt a prerogative of the development potential of the entrepreneurship by the university, once the disposition to undertake can be substantially changed by the environment (Collins, Locke & Shane, 2003). This promoting power is present, as Carvalho, Kovaleski & Machado (1999) evidence on a research about the graduating students' perception in the Engineering program at the Federal University of Paraná (Brazil), relating to activities and programs of teaching-learning and the level of contribution of each one of them to stimulate entrepreneurship to the students.

On the research, the engineering students graded several activities/programs of teaching-learning, being considered relevant the ones that achieved with average equal or superior to three (M≥ 3) in a 5-point scale. The synthesis of relevant indicators is shown on table 1.

Table 1 – Teaching-learning activities

Teaching/learning activities	Average grade
Professional Activity	3.97
Junior Consulting	3.70
Technological/Business Hotel	3.57
Short-term courses	3.46
Technological Incubator	3.32
Scientific initiation projects	3.30
Supervised training	3.28
Exposition of students' works	3.13
End of program project / Technical Visits and dedicated activities	3.08

Source: Carvalho, Kovaleski & Machado (1999)

Practical courses with average grade equal to 2.73, **Theoretical courses** with average grade equal to 2.45 and **The Seminar of Training evaluation** with average grade equal to 1.70 (based on the way they are conducted) were noticed by the students as non-relevant to stimulate entrepreneurship. Otherwise, we caution not to question the contents of the topic, but the methodology used and how it was made available to the students.

The study shows that under the students point of view the execution of activities based on some sources of specific information, such as the library, faculty, academic activities, expositions and speeches, make possible the development of attributes and characteristic behavior of an entrepreneur. Given this, the second hypothesis is formulated:

H2: students ' perceptions of the Business Administration and Accounting courses about the level of influence of teaching-learning activities in the formation of character entrepreneur does not differ depending on the course of which them are part.

3 METHODOLOGICAL PROCEDURES

3.1 Research Design

This research uses a survey based on a sample obtained by convenience with 279 students from Business Administration and Accounting programs from four private and public colleges in Curitiba, Brazil. The data were collected in four colleges in different parts of the city. All students answered to the questionnaire in their own classroom. A person responsible to conduct the survey was in the classroom in case there were questions or doubts about the questionnaire.

The population used to conduct this survey was restricted to senior students from Business Administration and Accounting programs. This restriction aimed to reduce the possible bias of the research regarding to knowledge and familiarity of the students with the teaching-learning activities that influence on the development of the entrepreneur character, as well as the offering of courses that deal with the entrepreneurial profile. In many cases, just senior students have been exposed to all opportunities offered by the institution.

It is believed that we can get more reliable answers regarding to teaching-learning activities and the entrepreneur profile characteristics stimulated during the course by the students that have studied the four years of college once they have more chances and reliability to answer to those questions.

The variables **Teaching-learning activities** and **characteristics of the entrepreneurial profile** were operated through a Likert-type scale of 5 points to identify the level of influence of the teaching-learning activities. This scale varied from 1, when there is no influence, and 5 when it influences completely. The frequency in which the characteristics of the entrepreneurial profile are developed during the program varied from 1 when it's never used, and 5 when it is always used.

Validation of the scale followed the recommendations of Pasquali (1999) by the completion of 3 steps: literature review, face validation and semantic validation. Face validation was made with three Masters in Business Administration, and their suggestions are included in the scale. As for semantic validation, that is, verify that the possible respondents understand the semantics of the items of the questionnaire (Pasquali, 1999), a pre-test, introducing the questionnaire to a group of 20 students of the undergraduate program in Business Administration. Their comments and suggestions were used to derive the final version of the questionnaire. In this study univariate statistical techniques and Exploratory Factor Analysis (EFA) were used.

4 RESULTS AND DISCUSSIONS

In this section will be presented the results of teaching-learning activities and characteristics of the entrepreneurial profile. The T Test was used to compare the average of the groups according to the influence of the teaching-learning activities and the level development of the characteristics of the entrepreneurial profile, for those criteria that have just two possible groups. In order to analyze the entrepreneurial profile the items have undergone an Exploratory Factor Analysis (EFA) using SPSS with method of the main components with Varimax Rotation.

4.1 General Characteristics of the Quantitative Sampling.

The final sample of this study were based with 279 students from Business Administration and Accounting programs, 57% were male and 43% were female. The students' age varies from 20 to 56 years old, concentrating the average age around 20 to 25 years old, corresponding 70% of the sample. Out of the investigated colleges, 23% were public colleges and 67% were private colleges.

Table 2 - Interviee´s Characteristics

		#	%			%
Gender	Male	158	57%	**Age group**	20-25 years	53%
	Female	121	43%		26-30 years	17%
					31-35 years	15%
Undergraduate program	Business Administration	219	78%		36-40 years	7%
	Accounting	60	22%		41-45 years	5%
					46-50 years	1%
Type of colleges					More than 50 years	2%
	Public	64	23%			
	Private	215	67%			

4.2 The characteristics of the entrepreneurial profile

The table 3 shows the student´s perception of the as the characteristics of the entrepreneurial profile are exercised in each program.

Table 3 – Characteristics of the entrepreneurial profile by program

Characteristics of the entrepreneurial profile	Program		T Test	
	Business Administration	Accounting	T	*p* Value
1. Innovation	3.40	3.10	**6.646**	**0.010**
2. Optimism	3.32	3.32	0.002	0.962
3. Leadership	3.60	3.62	0.027	0.871
4. Initiative	3.67	3.48	2.564	0.110
5. Flexibility	3.49	3.28	2.793	0.096
6. Independence	3.17	3.42	2.917	0.089
7. Tolerance to ambiguity and uncertainty	2.98	2.65	**9.156**	**0.003**
8. Orientation for results	3.56	3.47	0.585	0.445
9. Propensity to take risks	3.36	3.07	**5.848**	**0.016**
10. Ability to learn	3.65	3.53	1.170	0.280
11. Ability to conduct situations	3.54	3.25	**5.749**	**0.017**
12. Creativity	3.60	3.30	**5.005**	**0.026**
13. Accomplishment needs	3.33	3.34	0.001	0.972
14. Sensibility to others	3.04	2.83	3.136	0.078
15. Self-conscience	3.27	3.42	1.362	0.244
16. Aggressiveness	2.70	2.61	0.463	0.497
17. Confidence	3.46	3.52	0.197	0.657
18. Originality	3.33	3.10	3.036	0.082
19. Long-term involvement	3.39	3.23	1.578	0.210
20 Money as achievement's measure	3.13	3.02	0.770	0.381

The results of T Tests of each characteristic of the entrepreneurial profile allowed us to say that there is a statistic difference at the significance level of 0.05 at the characteristics:
Innovation (T value = 6.646; p = 0.01); **Tolerance to ambiguity and uncertainty** (T value = 9.156; p = 0.003); **Propensity to take risks** (T value = 5.848; p = 0.016); **Ability to conduct situations** (T value = 5.749; p = 0.017); and **Creativity** (T Value = 5.005; p = 0.026). So the hypothesis H1 was rejected in those characteristics.

In the sequence of the work an Exploratory Factor Analysis (EFA) was conducted with the characteristics of entrepreneurial profile trying to reduce them to fewer dimensions to represent the phenomenon. The factorial analysis allows the analyst to identify some distinct dimensions of the structure, and then determine the extension in which variable is explained for each dimension (Hair et al., 2009). According to Hair et al. (2009) the purpose of factorial analysis technique is to find a way to condense the information contained in an original numbers of variables into a new and smaller set, made up by dimensions or factors, in a way to lose as less information as possible. Loading of each item represents the correlation between the item and its dimension. Higher loadings make the item more representative within its dimension and more significant at the general analysis.

According to Hair et al. (2009) to verify the presence of the correlation between the variables and the adequacy of the factorial analysis to the structure of data it is possible to use the Bartlett's Test of Sphericity and the Kaiser-Meyer-Olkin (KMO) sampling adequacy measuring test. In the first case we can obtain the statistics probability that the matrix of correlations has significant correlations, at least in some variables, through the chi-square and the number of levels degree. On the second case, the ratios vary from 0 to 1, considering acceptable the values above 0.50 (Malhotra, 2001). Closer to 1 the ratio, higher the level of adequacy, otherwise, the 0.70 are considered as medium for the analysis.

To analyze the variables of the **characteristics of the entrepreneurial profile** it was used and octagonal turn through a varimax approach that makes easy to interpret the indicators in each dimension, trying to increase or decrease at the maximum the level of association of each of them through loading.

The 20 items used in the Entrepreneurial Profile construct underwent an Exploratory Factor Analysis (EFA) using SPSS with method of the main components with Varimax Rotation.

The results of EFA show factor loads below 0.40 were excluded form the matrix (Independence; Aggressiveness; Money as achievement's measure). The results of the factor analysis are shown next, gathering all the characteristics of the entrepreneur profile, as is shown on table 4.

Table 4 – Factor structure of the characteristics of the entrepreneurial profile

Dimension	Variables	Loading	Variance of the dimension (%)	Accumulated Variance (%)
INNOVATION	Initiative	0.787	47.061	47.061
	Innovation	0.680		
	Leadership	0.655		
	Optimism	0.593		
	Flexibility	0.480		
PERSONALITY (creativity)	Creativity	0.678	6.634	53.694
	Ability to conduct situations	0.629		
	Ability to learn	0.500		
	Originality	0.474		
	Accomplishment needs	0.460		
PERSONALITY (confidence)	Self-conscience	0.756	5.183	58.878
	Sensibility to others	0.521		
	Confidence	0.494		
STRATEGY	Long term commitment	0.920	4.825	63.703
RISKS	Tolerance to ambiguity and uncertainty	0.721	4.455	68.159
	Propensity to take risks	0.502		
	Orientation for results	0.418		

Obs: Kaiser-Meyer-Olkin measuring of sampling adequacy = 0.941; Bartlett's Test of Sphericity = 2667.541 1635.892; Symbolic value of significance = 0.00000.

Table 4 shows that the variation explained by the 5 initial factors were 68.159%. It is noticed that some items showed significant loads factors that they purport to measure, indicating to be strongly related to their specific dimensions and the presence of convergent validity. These results come to reinforce the study of Carland, Carland & Hoy (1998) that describes the entrepreneurial profile in four dimensions: personality traits (accomplishment needs and creativity); tendency to innovation; propensity to take risks; and strategy posture.

4.3 Teaching-learning activities

The T tests were performed aiming to analyze the existence of difference at the influence level of each teaching-learning activity on the development of the entrepreneur character according to the program he/she is taking part in. The results are shown on table 5.

Table 5 – Teaching-Learning Programs by program

Teaching-learning activities	Program		T Test	
	Business Administration	Accounting	T	*p* Value
Theoretical courses	3.26	3.22	0.084	0.773
Practical courses	4.28	4.37	0.620	0.432
Case studies	3.95	4.15	2.723	0.100
Exposition of academic works	3.59	3.17	**8.763**	**0.003**
Technical visits	3.97	3.47	**11.521**	**0.001**
Entrepreneur Interviews	4.08	3.93	1.279	0.259
Supervised training	3.12	3.41	2.659	0.104
End of program Project	4.29	3.82	**11.372**	**0.001**
Scientific initiation Project	3.62	3.59	0.037	0.847
Junior Consulting / Students´ Union	3.67	3.73	0.148	0.701

The analysis of the results prove that there is a statistical difference at the significance level of 0.05 of the teaching-learning activities between the Business Administration program and the Accounting program. The average influence of the **Exposition of academic work** for the Business Administration students (mean = 3.59) is superior to the Accounting students (mean = 3.17). Related to the curricular and extra-curricular activities, we identified that there is a statistics difference at the significance level of 0.05, at the students' perception, from both programs, for the Teaching-learning activities: **End of program Project** (T value = 11.372; p = 0.001); **Technical visits** (T value = 11.521; p = 0.001); and **entrepreneurs interviews** (T Value = 8.763; p = 0.003). This statistics conclusion rejects the **H2** in those activities.

5 FINAL CONSIDERATIONS

In this study, we sought to check the students' perception of the Business Administration and Accounting programs on entrepreneurial characteristics and level of influence teaching and learning activities in the formation of entrepreneurial character. For such was used a Likert scale with 20 indicators based on Filion (1999). The scale was applied in a final sample of 279 students.

The evaluation of the characteristics of the entrepreneurial profile suggest that some characteristics differs by programs. We observed the items showed with different evaluation are: innovation, propensity to take risks, tolerance to ambiguity and uncertainty, ability to conduct situations and creativity. On these cases with the higher evaluation were done by the Business Administration programs students.

These results clarify the importance of understanding that the programs are distinct and that their training primary objectives may limit the development of some entrepreneurial characteristics. The Accounting program follows rules and norms to present general results of patrimonial, economic performance and financial situation of the companies. In a few moments, this procedural vision limits the ability to innovate, be creative and tendency to take risks.

The Business Administration students' opinions about some pedagogic activities have level of influence significantly higher than those activities considered relevant by education specialists. This way, the end of program project and the practical courses show a level of influence in the learning process significantly higher than the other activities.

Related to the comparison between the students from Business Administration and accounting programs, there were differences in the exposition of academic works, technical visits and end of term Project, on these cases with the higher evaluation by the Business Administration programs students. The analysis of the answers shows that the professional peculiarities of each program recommend different approaches for these programs. A more detailed analysis can show possible causes for these differences, such as: the size of the companies (higher in Business Administration), equipment used (larger variety in Business Administration), possibility to use the schematic forms opposing to the use of numbers. The question in essence is the necessity of having an approach compatible to the specificity of each program.

It is suggested that future research should not treat only the items in the environmental entrepreneurial profile characteristics of undergraduate training, but also at postgraduate courses and distance learning modalities. In addition, it is suggested to use other methodological designs, such as a longitudinal study of this phenomenon in graduates of courses with some years of professional experience.

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