



# TEACHING ENTREPRENEURSHIP IN HEI AN ANALYSIS AT THE PORTUGUESE POLYTECHNICS - paper 28 -

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(...) “To better understand if the actual entrepreneurship education offer is consistent with educational goals and with international best practices, this paper analyses the current state of entrepreneurship education at the public higher education polytechnic in Portugal, at the level of first and second study cycles, through an exploratory content analysis of course syllabus relatively to their teaching goals, programs, teaching methods and bibliography used at the fifteen polytechnic institutes at national level.” (...)



# Purpose

How is the teaching of entrepreneurship being approached within public polytechnics ?

What contents, teaching methods and barriers in entrepreneurship education do exist ?

How relevant and appropriate are the contents, teaching methods and goals used in entrepreneurship education ?



# Design/methodology/approach

- 15 polytechnics
- 75 schools and colleges
- 1047 courses of 1<sup>st</sup> and 2<sup>nd</sup> cycle
  - 595 (57%) 1<sup>st</sup> cycle courses (undergraduate)
  - 452 (43%) 2<sup>nd</sup> cycle courses (masters)
- 197 courses of 1<sup>st</sup> and 2<sup>nd</sup> cycle with entrepreneurship course offer, 38 different labels;
  - 159 (80,7%) 1<sup>st</sup> cycle courses (undergraduate)
  - 38 (19,3%) 2<sup>nd</sup> cycle courses (masters)



# Design/methodology/approach

- 4 *corpus* exploratory content analysis
  - Learning Objectives / Program / Teaching Methods / Bibliography
- Bloom's taxonomy analysis for teaching goals
- Hellegard's coefficient of association analysis for most used terms in the *corpus*



# Findings & results Blooms Taxonomy

Categories	Action verbs	Count	%
Knowledge	define / describe / <b>identify (6)</b> ...	12	8,4%
Comprehension	define / describe / explain / illustrate / discuss / <b>identify (6)</b> / interpret / select ...	25	17,6%
Application	apply / <b>develop (18)</b> / illustrate / interpret / organize / solve / use ...	32	22,5%
Analysis	<b>analyse (9)</b> / identify / illustrate / select ...	21	14,7%
Synthesis	conceive / <b>create (5)</b> / elaborate / explain / formulate / organize / develop ....	37	26%
Assessment	<b>assess (5)</b> / chose / decide / explain / solve /select	15	10,5%



# Findings & results

- **Learning Objectives corpus**
  - Type/token ratio of 38,57%
  - Bloom's taxonomy analysis
- **Greater emphasis**
  - Actions related to the application of new information, methods and learned contents in new situations;
  - Objectives focused on the students ability to gather information in order to find better solutions.
- **Less emphasis**
  - Capacity to recall previously acquired knowledge;
  - Development of making decisions capacities.



# Findings & results

- **Program corpus**
  - Type/token ratio of 27,19 %
- Greater emphasis
  - Busines / business plan / corporation
  - Issues related with business, companies and the preparation of the business plan
- Less emphasis
  - Opportunity / market / creativity and business creation / marketing / management / strategy;
  - Issues related to detection and evaluation of business opportunities, creativity, new businesses creation and marketing





# Findings & results

- **Teaching Methods** *corpus*
  - Type/token ratio of 43,28 %
- Greater emphasis
  - Learning contents exposure / type of classes
  - Classroom lectures using expository method through theoretical and practical lessons
- Less emphasis
  - Company visits / Seminars and Conferences / Business Plans
  - Training abroad



# Findings & results

- **Bibliography corpus**
  - 2 categories (Year of publication / author and work designation)
  - 5 thematic areas (Management / business plan / financing / entrepreneurship & small business / various)
- **Greater emphasis**
  - Works and titles related with the field of management and business (43%);
  - Titles about "entrepreneurship", mainly in English;
- **Less emphasis**
  - Works / titles on creativity / ideas / start-ups / internationalization / team management / social entrepreneurship / finance / business plan



# Findings & results

- **Hellegard's coefficient of association**
  - Words “**entrepreneur**” and “**student**”, associated with 21 other different words from all 4 *corpus*

“**entrepreneur**” shows higher association values with the words *analysis / development / innovation / creation / market* and smaller association values with the words *commercial / autonomy / responsibility / Behavior*

“**student**” shows higher association values with the words *analysis / development / creation / market / ideas / business* and smaller association values with the words *autonomy / commercial*



# Findings & results

- Inconsistencies between the Program and Learning Objectives *corpus*

	<i>corpus</i> Program		<i>corpus</i> Learning Objectives	
	+	-	+	-
Entrepreneur	development creation entrepreneurial market analysis	autonomy commercial capacity behavior problems	capacity innovation development market business creation	commercial responsibility autonomy creativity
Student	commercial capacity behavior problems	autonomy business innovation management	capacity innovation	commercial autonomy responsibility creativity



# Findings & results

Predominant offer of entrepreneurship courses in management and technology scientific areas, compared to an almost total lack of training offers in other areas

Entrepreneurship course "happens" at the end of the curriculum and is mostly a mandatory course



# Findings & results

Training in classroom / lecture method / teacher centered

Predominant subjects in the areas of management and business plans



# Findings & results

Inconsistencies between programs, learning objectives and teaching methods enrolled in the syllabus

Few bibliographic references in areas that deserve greater emphasis at the program level (eg. business plan and financing)

Weak association of skills related to autonomy, creativity and accountability with the terms *student* and *entrepreneur*



# Discussion

- Legitimacy of entrepreneurship as scientific area in HEI, more than fashion
- We need to spread entrepreneurship courses beyond the '*superman* teacher'
- Development of specific training for teachers
- Alignment of objectives, learning outcomes and pedagogical methods
- Entrepreneurship courses as an option for professional careers

