BE-Learning: An Integrated Framework for Business Education

Elzo Alves Aranha,   Viviane Pedrosa,   Luciola de Jesus Izappia

Production Engineering and Management Institute

Federal University of Itajubá, Brazil

eaaranha@unifei.edu.br

Abstract

Although there are varieties of business education articles that explore Bloom's taxonomy, entrepreneurship education, active learning and design thinking these articles analyze each theme without establishing interfaces and connections among them. It is verified from the preliminary survey of the literature that each topic is distant from each other and fragmented in the business education academic production. The research objective is twofold. It first explores the key aspects of Bloom's taxonomy, entrepreneurship education, active learning, design thinking and business marketing by identifying the key elements, in business undergraduate program. Second, from the main elements identified in the literature analysis, it proposes a framework that fosters higher-order thinking activities and entrepreneurship skills in undergraduate Business Administration. The case study was a development in business marketing management discipline of a Brazilian federal university with data collection carried out from 2017 to 2019. The main findings suggest that the framework consisting of 6 thematic environments and 15 steps fosters the higher-order thinking activities and entrepreneurship skills of the students of business undergraduate program. The findings research are innovative for the academic production of business education and have several practical implications for business undergraduate programs and companies.

Keywords: Business Education, Business Marketing; Entrepreneurship Education; Active Learning.

1. INTRODUCTION

Business education has become a topic of interest for business researchers (Van den Bossche, Segers, Gijbels and Dochy, 2004; Glen, Suciu e Baughn, 2014). The business education, it makes possible to explore analyzes involving new approaches and pedagogical strategies, included in the learning process. The new approaches and pedagogical strategies aim to provide an encouraging, engaging and stimulating learning environment for the student, becoming the main protagonist and developing skills, being able to produce innovative impacts on the organization. In contrast, traditional pedagogical strategies lead the student to a state of passivity, poor performance and trigger a set of failures.

In the United States, traditional methodologies triggered a set of failures and were criticized in the 1990s for failing to prepare students for the global workplace (Wright, Bitner and Zeithaml, 1994). One of the causes of failure in learning was due to the use of traditional learning methodologies, leading the student to maintain a passive attitude. Researchers seek to analyze various topics of business education. Topics include active learning in business education (Wright, Bitner and Zeithaml, 1994; Van den Bossche, Segers, Gijbels and Dochy, 2004), design thinking in business (Glen, Suciu and Baughn, 2014; Çeviker-Çınar, Mura and Demirbağ-Kaplan, 2017; Matthews, Bucolo and Wrigley, 2011; Matthews and Wrigley, 2017), Bloom's Taxonomy in business education (Reeves, 1990; Ching and Da Silva, 2017) and business education (Filion, 1993; Gibb, 2002).

The preliminary survey of business education literature indicates two signs. The first signage refers to distance and fragmentation. Although there are varieties of business education articles that explore Bloom's taxonomy, entrepreneurship education, active learning and design thinking these articles analyze each theme without establishing interfaces and connections among them. It is verified from the preliminary survey of the literature that each topic is distant from each other and fragmented in the business education academic literature. The second signaling is due to the first. Considering the preliminary survey, it is suggested that the incipient amount of scholarly articles seeking to integrate, connect, and establish interfaces among entrepreneurship education, active learning, design thinking, and Bloom's Taxonomy in business education opens a gap in the academic literature of business education. This fledgling amount of scholarly articles makes it difficult to understand what each topic can offer to each other. The gap also exposes the lack of tools, models, and frameworks integrated based on in entrepreneurship education, active learning, design thinking, and Bloom's Taxonomy that foster the development of higher order think activities.

The present study addresses the gap outlined above. The question formulated is limited to the field of business education. The article aims to answer the following basic question: What integrated tool anchored in Bloom's taxonomy, entrepreneurship education, active learning and design thinking fosters

the activities of higher-order thinking and entrepreneurship skills in the undergraduate Business program?

The research objective is twofold. It first explores the key aspects of Bloom's taxonomy, entrepreneurship education, active learning and design thinking by identifying the key elements. Second, from the main elements identified it proposes a framework that fosters the activities of higher-order thinking and entrepreneurship skills of the student, in curricular components of the undergraduate Business course.

The article is structured in seven sections. In the first section are the introductory elements. In the second, the literature review and in the third, the method and technique adopted. In the fourth is the framework proposal and data analysis. In the fifth section you will find the main results. The sixth is the conclusions.

2. LITERATURE REVIEW
2.1 BUSINESS MARKETING

Contributions to the formation of a field of study in business marketing or business-to-business (B2B) or industrial marketing began between the late 1800s and the early 1900s (Laplaca, 1997). B2B is pioneered by John Wanamaker, a retail entrepreneur from the 1899s. The first recorded attempt to understand customer-business relationships was proposed by Wanamaker. Wanamaker's contributions to the area are based on an integrative perspective of the roles played by suppliers, retailers and customers. In this context, Wanamaker proposed a balance between buyers and sellers, rejecting the idea of maximum profit, arguing that in a harmonious and sustainable business system, close contact is imperative between producers, retailers and end customers. (Cortez & Johnston, 2017).

B2B research is still young and with many open questions to be answered (Laplaca, 1997). Analyzes of international marketing practices are growing to address challenges and address ever-emerging global opportunities, including establishing the interface between B2B marketing and entrepreneurship. In a B2B business, the relationship between industrial marketing and entrepreneurship can be approached from two different perspectives. The first focuses on the role of marketing in startups, and the second examines the role of entrepreneurship within the marketing function of an existing business, where marketing must be the focal point of the entrepreneurial process within corporations. (Morris et al, 1988).

Entrepreneurship management encourages B2B to act as a change agent in the face of the dynamism, hostility and complexity of the environment that creates opportunities and threats in the organizational context (Morris et al, 1988). In this regard, industrial marketers must focus on developing relationships between buyers, sellers and distributors, with strategic partnerships and alliances; given that these relationships influence product development, pricing, promotions, sales strategies, and marketing research. (Laplaca, 1997).

2.2 ENTREPRENEURSHIP EDUCATION

The entrepreneurial mindset is related to the skill to recognize new opportunities and use them successfully, having as incentive the learning process that involves this condition (Gibb, 2002; Maresch et al, 2016). The importance of entrepreneurial education for contemporary work is essential (Kuttim at al, 2014). But what is entrepreneurial education? There are a variety of notions and definitions of entrepreneurial education and there is no consensus on the term (Fayolle, 2013). Authors mention that entrepreneurial education involves methods, techniques, theories and approaches for the purpose of developing entrepreneurial skills and entrepreneurial culture, including the development of entrepreneurial mindset, ability and skill, as well as the application (Garavan e O'cinneide, 1994; Gibb, 2002; Gibb and Price, 2014).

Entrepreneurship education enables the fostering of entrepreneurial skills (Filion, 1993). The entrepreneurship metamodel (Filion, 1993) makes it possible to develop the thinking process through a vision, connected to the four elements. According to Filion (1993) the four elements are: *weltanschauung*, energy, leadership and networking; where each element influences the others, and the system of relationships plays the most important role. *Weltanschauung* (from German) is the prism through which the individual sees the real world, constituting the basis on which the process of creating the entrepreneur's vision develops. This aspect includes values: what is noted as significant in the present or future (Filion, 1993).

Energy refers to the time spent in professional activities, as well as the intensity in which these activities are performed, receiving strong influence of the entrepreneur's values (*weltanschauung)* determining what the individual will be willing to invest in their working life. Here we highlight the need to work intensively as long as what is being done is internalized and used to aid vision development (Filion, 1993). Filion states that leadership, as the third element of the entrepreneurship metamodel, results from values, energy and relationships; besides influencing these aspects. Finally, the networking is presented as the most decisive element regarding the evolution of the decision, given that the interpersonal relationships and practices that the entrepreneur establishes are fundamental for the development of his central vision, especially regarding

the organizational culture and work development support (Filion, 1993). The implications of Filion's metamodel (1993) affect three different areas of entrepreneurship activity: entrepreneurial action, research, and education for entrepreneurial activities.

2.3 ACTIVE LEARNING

In the academic field, many professors claim that every learning process is active. Thus, in this notion, students are actively involved while witnessing formal classroom explanations (Bonwell & Eison, 1991). However, some authors suggest that the student body must, in addition to listening, discussing and engaging in problem solving, engage in tasks that develop analysis, synthesis and evaluation as higher-order thinking. In this context, we propose strategies that promote active learning, involving students in practical activities to understand what and why they do them. (Bonwell & Eison, 1991).

Active learning shows that technical knowledge and research, while crucial for academic development, are not sufficient for student learning. Contextualization, reflection and stimulating reflection also play an important role in the incorporation of knowledge (Salvador & Ikeda, 2019). As an active learning methodology, problem-based learning has been applied in many areas of knowledge and educational contexts to promote critical thinking and problem solving in authentic learning situations. (Yew & Goh, 2014).

In this approach, students study content through problem solving. Thus, students are expected to assume their own learning through data collection, critical analysis and the transformation of information into acquired knowledge. Teachers then assume a role of guiding students in their learning processes. (Erdogan & Senemoglu, 2014).

2.4 COGNITIVE LEARNING OBJECTIVES

In the pedagogical field, there are several existing tools to support the planning, structuring, organization, definition of teaching objectives, as well as the choice of assessment in the classroom. One of these tools is called Bloom's Taxonomy and its purpose is to assist in the identification and statement of objectives related to cognitive development of the student (Athanassiou, Mcnett & Harvey, 2003). Developed by Benjamin Bloom in 1948, and later revised by his students and other scholars, Bloom's Taxonomy involves three learning domains: cognitive, affective, and psychomotor.

The cognitive domain involves conscious intellectual activity and consists of 6 levels of complexity: Knowledge, Understanding, Application, Analysis, Synthesis, and Evaluation (Sharunova et al, 2018). The learning processes corresponding to each level are described as: 1. Knowledge - ability to remember information; 2. Understanding - ability to understand and explain concepts; 3. Application - ability to use information in a new context; 4. Analysis - ability to analyze and distinguish information; 5. Synthesis - ability to gather information and develop a new product; and 6. Evaluation - ability to judge and justify a decision or point of view.

Table 1 - Bloom's Taxonomy Structure

Bloom's Taxonomy Revised		
Hierarchy Action Verbs	**Cognitive Domain**	**Description**
Low order thinking activities	1. To remember	To regain relevant knowledge of long-term memory.
	2. To understand	To determine the meaning of instructional messages (oral, written and graphical communication).
	3. To apply	To perform or use a procedure in a given situation
High order thinking activities	4. To analyze	To split the material into pieces and detect how each one relates to each other and to the entire structure.
	5. To evaluate	To make judgments based on criteria and standards.
	6. to create	To join elements to form a whole new and coherent or make an original product.

Note: The table's rightmost "Description" column contains additional action verbs aligned with each row:

Cognitive Domain	Action Verbs
1. To remember	To recognize, remember
2. To understand	To interpret, exemplify, classify, summarize, infer, compare, explain.
3. To apply	To execute, implement
4. To analyze	To differentiate, organize, assign.
5. To evaluate	To check, criticize.
6. to create	To generate, plan, produce.

Developed by the authors from Krathwohl (2002)

The six cognitive domains are classified into two other levels. Thus, the first three cognitive domains (Knowledge, Understanding, and Application) are considered low-order thinking skills, and the other three (Analysis, Synthesis, and Assessment) are high-order thinking skills. (Sharunova et al, 2018). Considering that, only after knowing a certain subject can the student understand and apply it, Bloom's Taxonomy is, besides a classification system, a possibility of hierarchical organization of cognitive processes. In this direction, Bloom's Taxonomy is used as a common language system to describe levels of cognitive learning within the competency-based curriculum (Athanassiou, et. Al. 2003).

2.5 DESIGN THINKING

The term design thinking is increasingly used to mean the problem solving process. In this aspect, design thinking is pointed as a tool that radically improves decision making in fields such as business management (Melles et al, 2011). Design thinking is generally defined as an analytical and creative process that involves the individual in situations and opportunities to experiment, create and prototype models, and gather feedback and redesign processes. (Razzouk & Shute, 2012).

Brown (2008) identifies five characteristics for a design thinker: empathy (seeing the world from different perspectives focusing on people), integrated thinking (to see all aspects of the problem, not just focusing on analytical processes), optimism (no matter how challenging) be a problem, there will always be a potential solution), experimentalism (design thinkers explore problems creatively to find solutions) and collaboration (codependency of various areas of knowledge for creativity and innovation).

The design thinking process is defined as a system with three main steps that together form the continuous process of innovation. The first step is defined as inspiration that is related to circumstance, be it a problem or opportunity that will lead to the second step, ideation. At this point, the individual will go through the process of creating, developing, and testing ideas that may lead to the third step, implementation; with ways to implement problem solving (Brown, 2018). For Kortzfleisch et al (2013), design thinking and entrepreneurship are a promising combination for teaching approaches, as design thinking can help in setting scenarios and developing solutions to practical problems. In the context of entrepreneurial teaching, the design thinking approach is geared toward schools developing students' thinking in modeling business, systems and services, where students apply their design thinking skills to problems in the learning process (Melles et al 2011).

3. METHOD AND TECHNIQUE

The research is exploratory and reflexive (Alvesson and Sköldberg, 2000), based on case study (Yin, 2001). The research was carried out in four stages from January 2017 to June 2019. In the first stage, the literature review was performed. We sought to explore the main aspects involved in the literature.

In the second stage, from the main aspects identified, the framework was developed. In the third step, we sought to validate the framework for undergraduate business marketing discipline at a Brazilian federal university, from 2017 to 2019. Data collection was performed from 2017 to 2019, always at the end of the course, totaling 93 students. In 2017 34 students participated, in 2018 29 students participated and in 2019 30 students participated. In the fourth step, the tabulation, data analysis and adjustments to the framework were performed.

4. THEME DEVELOPMENT: FRAMEWORK AND DATA ANALYSIS
4.1 FRAMEWORK ANALYSIS

According to the literature review, the main aspects were identified, based on entrepreneurship education, entrepreneurial skills development, active learning, design thinking and business marketing to explore the development of the framework. The name of this framework is Business Education Learning-BE-Learning). Figure 1 demonstrates the framework proposal, which is grouped into six thematic environments / steps, namely:

- To resolve preliminary issue
- To develop enterprise connections
- To perform meta-assessment
- To analyze company business marketing processes
- To assess problems and opportunities to innovate the company
- To design solution to innovate company

In each thematic learning space there is a set of stages proposed to the teams, as shown in table 1.
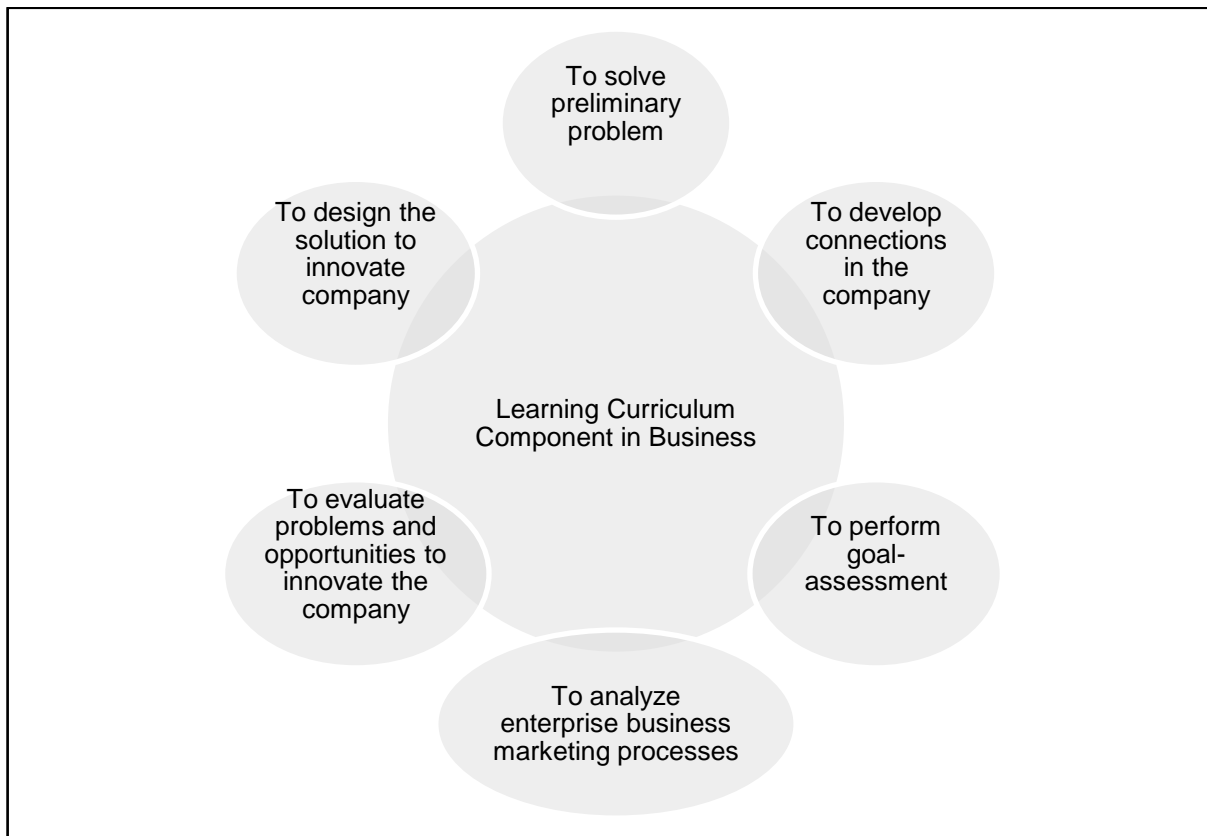
Figure 1: Framework Proposal

Developed by the authors

Table 2 presents the thematic learning spaces along with the main proposed steps.

Table 2: Thematic Learning Spaces and Steps

Thematic Learning Spaces	Steps	Step Description
To solve preliminary problem	1	To analyze Problem, Ask Questions, about Tools and Concepts (Chapters Study)
To develop connections in the company	2	Search for company information to answer questions and understand problem and tools (making connections with theories and practices)
	3	To develop One-to-One exercises to broaden understanding of problems and create solutions.
	4	To extend mastery of tools, techniques and concepts to understand problems and tools
	5	To develop connections between company and tools, techniques and concept.
	6	To present connections between company and tools, techniques and concept
To perform goal-assessment	7	To perform team self-assessment of presentation of connections between company and tools, techniques and concept.
	8	To evaluate the presentation of the teams of presentation of connections between company and tools, techniques and concept.
To analyze enterprise business marketing processes	9	To expand portfolio of strategic and operational company information
	10	To develop the value delivery framework in the company
To evaluate problems and opportunities to innovate the company	11	To identify problems and opportunities with the most impactful innovation company
	12	To validate problem and opportunity with the highest impact innovation company
To design solution to innovate company	13	To develop innovative high impact solution
	14	To validate innovative solution with the company
	15	To develop action plan and develop final project presentation

Developed by the authors
4.2 DATA ANALYSIS

The subject selected for analysis is Business Marketing Management taught entirely in English and is in the full curriculum of the 7th, 5th year of the undergraduate degree in Business Administration of a federal university. The course uses the textbook: *Business Market Management* by Anderson, Narus and Narayandas (2009). Table 3 presents the thematic axes and themes supported by the textbook.

Table 3 - Thematic Lines

Thematic Lines	Theme
Understanding of the Value	Business Market Management: The Basics
	Marketing Sense: Generating and Using Market Knowledge
	Understanding Companies as Customers
	Establishing market strategy
Creating the value	Managing Market Offers
	Making new offers
	Enterprise Market Management
Delivering value	Obtaining new business
	Sustaining Partnerships with resellers
	Managing clients

Prepared by the authors based on Anderson, Narus and Narayandas (2009)

In the steps involving thematic learning spaces, analyzing the company's business marketing processes, assessing problems and opportunities to innovate the company, and designing the solution to innovate the company, the teams developed the activities with the companies in table 4.

The questionnaire tool was based on activities in the framework that are in table 1. On the first day of class is presented the teaching plan, evaluation criteria and pedagogical strategies adopted along with methods and techniques. On the second day of the teams are formed and dynamics of awareness regarding the business marketing management.

On the third day a business case is presented for the student to solve (step solving the core problem of the company case). This case allows the student to develop preliminary awareness of the subject's core theme. 10 teams are formed since the beginning of the course and each team selects a B2B company with shares traded on the New York Stock Exchange or Bovespa (B3/Brazil). With the selection of the company, all activities proposed in the course are performed by the student teams from the company. Figure 2 presents the framework that together with table 3 demonstrate the thematic environments and steps available in operation in the discipline.

Table 4 - Companies that were Analyzed

| Company	Pages - Senior Management Report	Industrial Sector
A	274 pages	Oil and gas
B	343 pages	Turbines
C	427 pages	Base industry
D	184 pages	Automotive Industry Components
E	177 pages	Engines
F	383 pages	Ores
G	209 pages	Market Research Services
H	168 pages	Electronic components
I	120 pages	ERP Software
J	106 pages	Electronic components

Developed by the authors
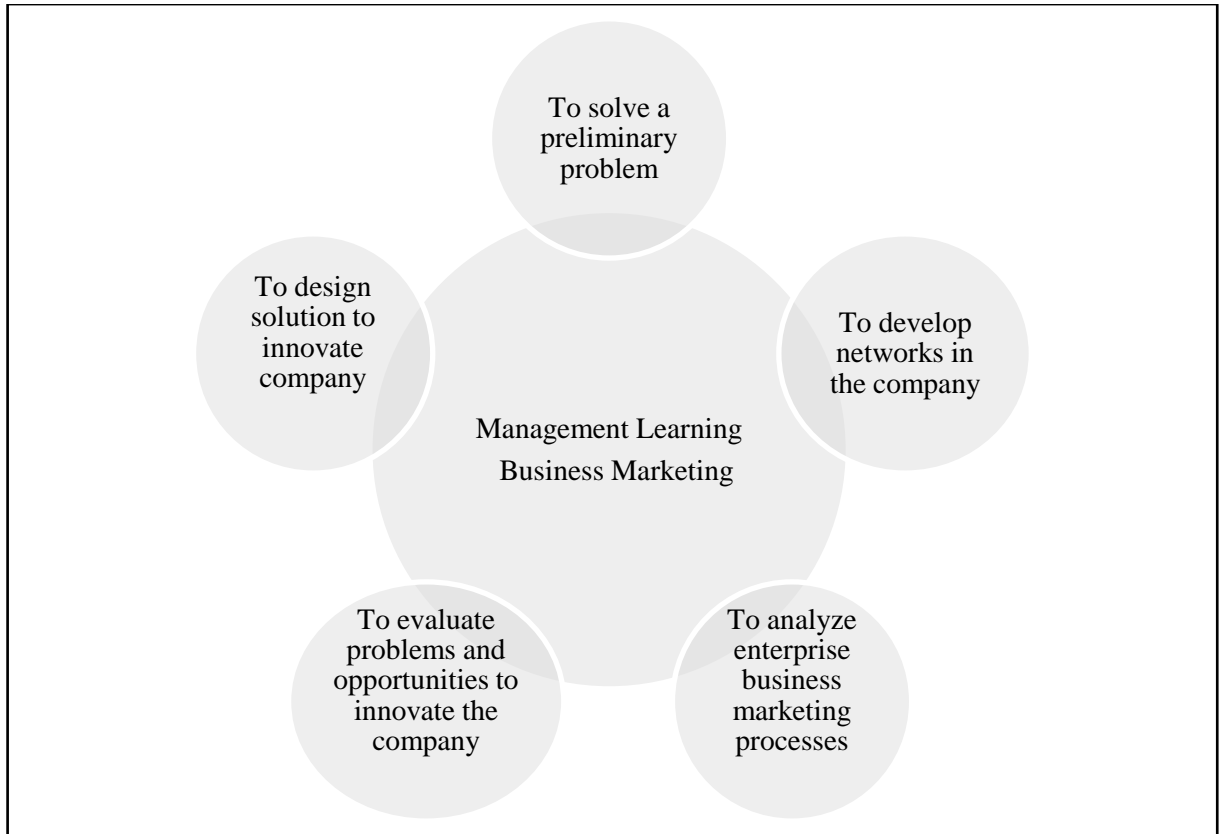
Figure 2: Framework in the Business Marketing Management Discipline (B2B)
Developed by the authors

Data collection was performed from 2017 to 2019, always at the end of the course, totaling 93 students. In 2017, 34 students participated, in 2018 29 students participated and in 2019 30 students participated. The percentages are in figure 3.
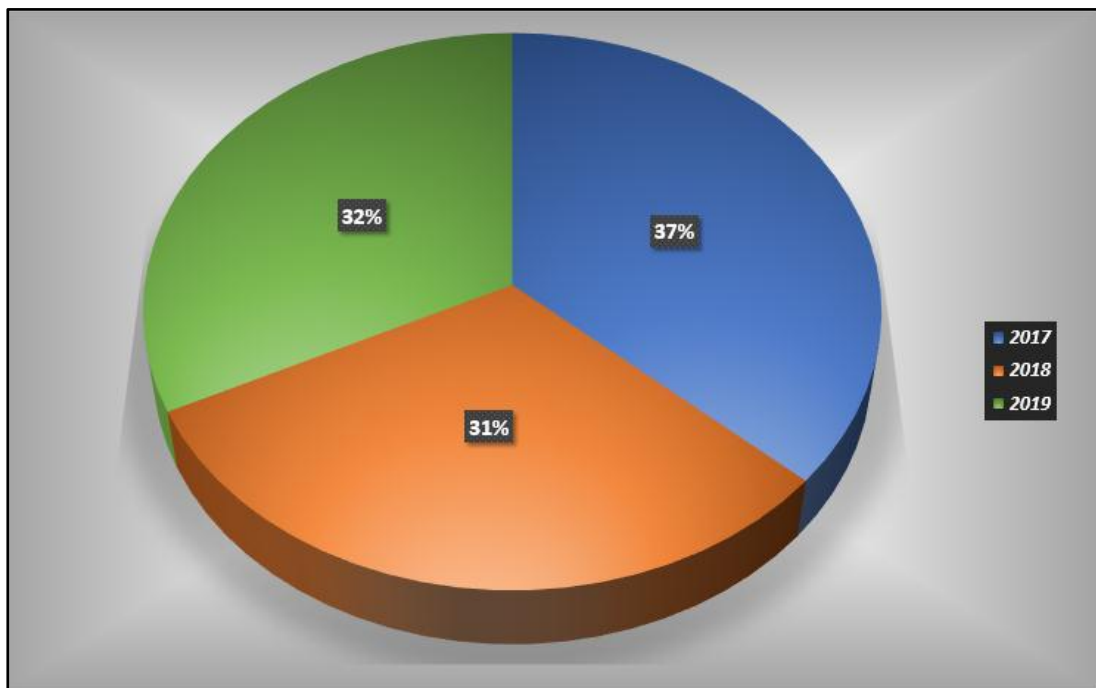

Figure 3: Number of Respondent Students per Year of Enrollment
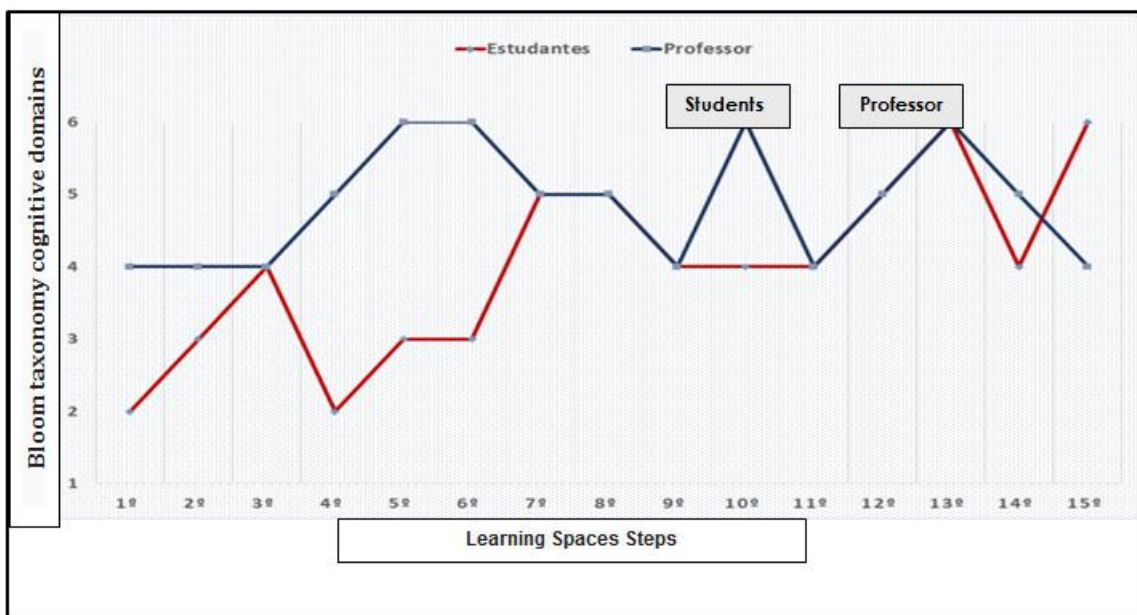**Developed by the authors**

Figure 4: Results of Cognitive

Developed by the authors

The figure 4 presents the results of cognitive domains by activity, corresponding to the total of 15 activities performed. In all 15 activities, the teacher estimates that the activities promote the development of the highest order cognitive goals, namely, analyze, evaluate and create. As you point at the blue line. According to the red line in figure 4, steps 1, 2, 4, 5 and 6 were mentioned by students as activities of the lowest order thinking. However, two activities are comprehensible and three activities are application. In steps 1, 2, 4, 5 and 6 the teacher estimated the development of the highest order cognitive domains. The other steps were pointed by the students as cognitive domains of the highest order.

The figure 5 represents the densities in which the results of figure 4 appear in the research conducted on cognitive domains by activity, corresponding to the total of 15 activities performed, as previously seen.
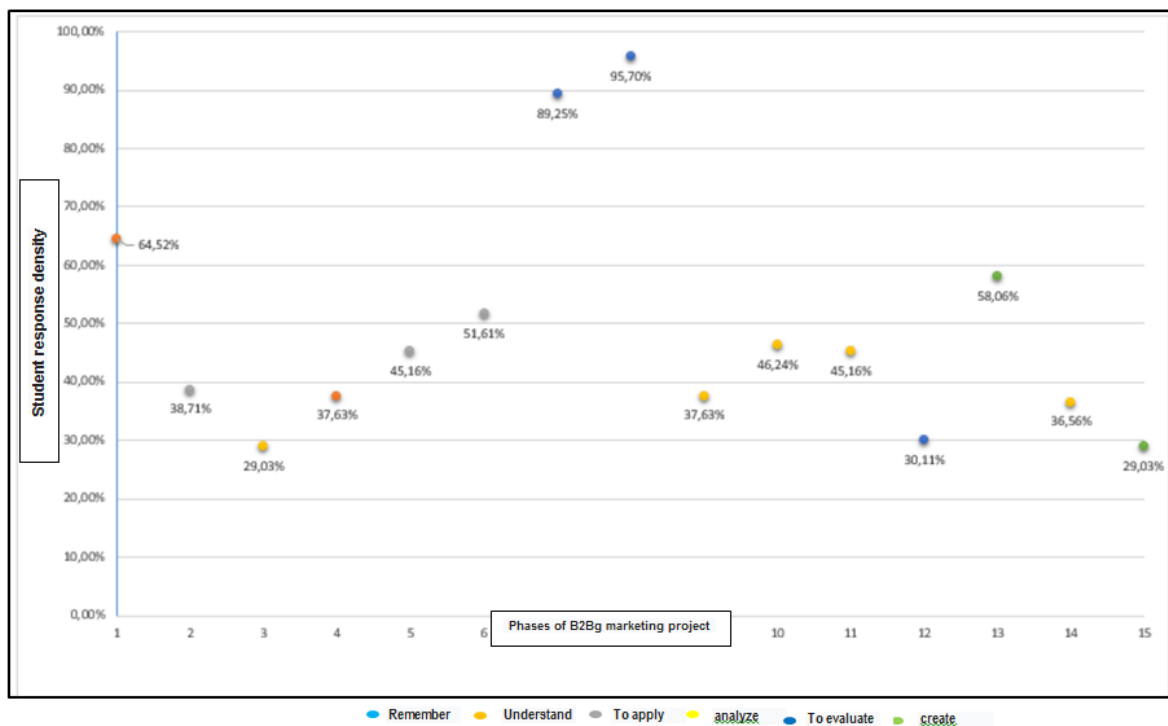

Figure 5: Cognitive Domains Results Density by Activity

Elaborated by the authors

The figure 6 shows the development of students' entrepreneurial skills. The first skill mentioned by the students was networking, with 92% corresponding to the sum of answers from 2017 to 2019, out of a total of 264 answers obtained. The second skill is vision with 83% of student respondents, then the third skill is leadership with 44% of student respondents. The fourth is energy with 29% of respondents and the last weltanschauung with 16% of responses. Throughout the implementation of the framework the student performs a total of 15 activities.

Three activities include: (a) validating problem and opportunity with the company with the greatest impact on innovation, (b) validating and approving innovative solution with the company, and (c) developing the action plan and developing In the final presentation of the project, students are encouraged to contact company executives and are considered to be interacting or networking between staff and companies. Networking as the most developed entrepreneurial skill in the student is due to the interaction activities with the company.
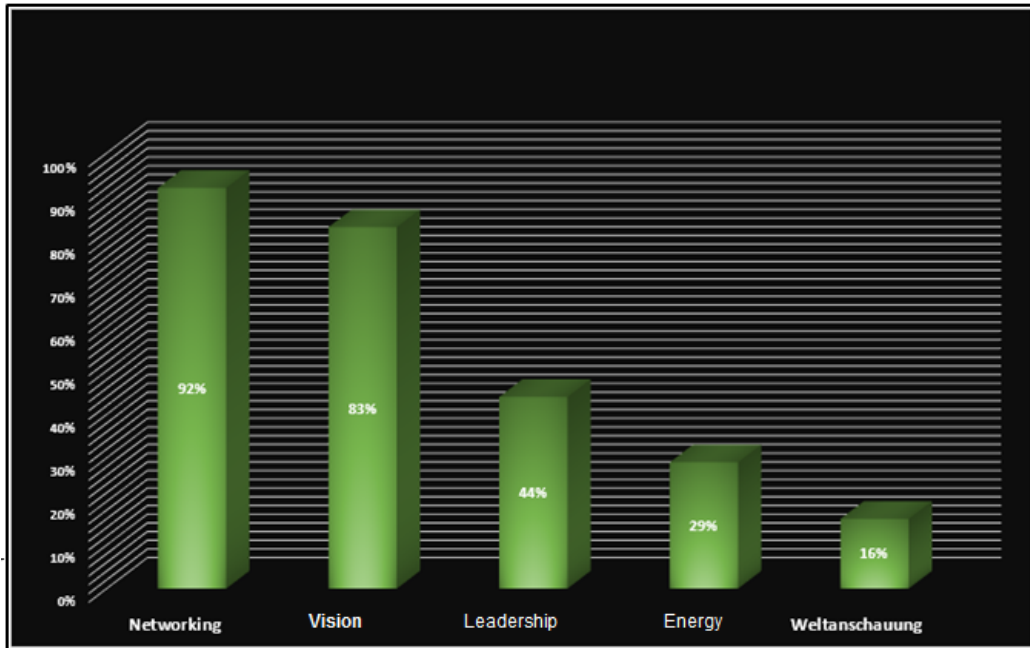

Figure 6: Entrepreneurial Skills Development
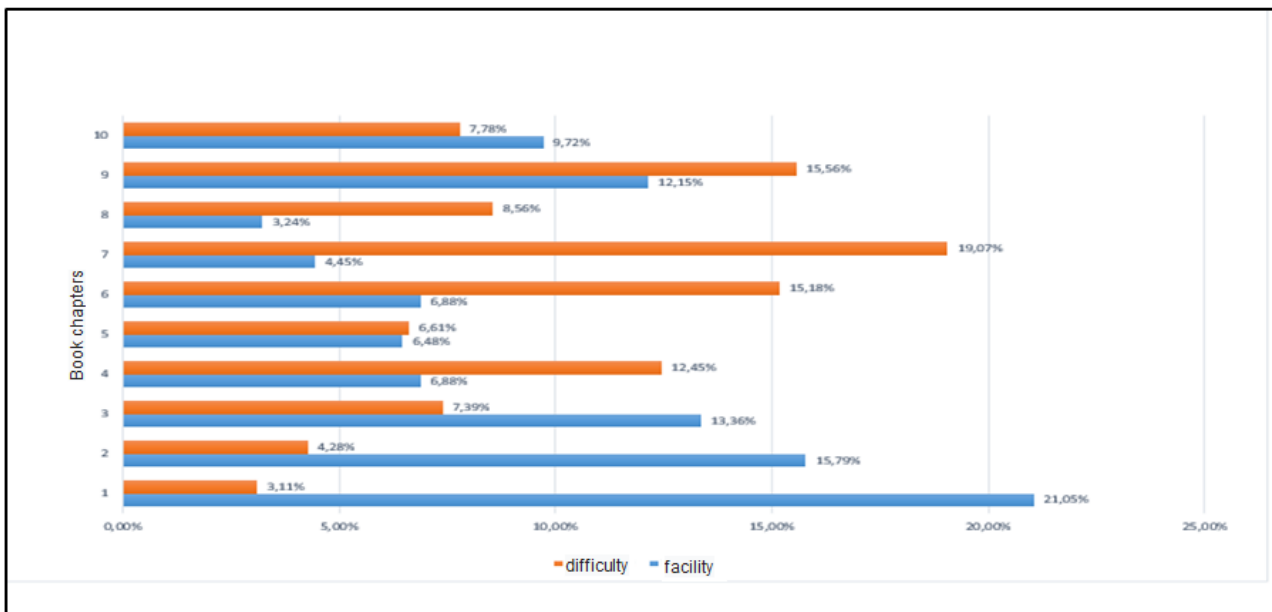**Developed by the authors based on Filion (1993)**

Figure 7 - Facility and Difficulties that are faced
Developed by the authors

The figure 7 represents the degree of ease and difficulty faced by Business Administration students in each of the 10 chapters studied in the book: *Business Market Management* by Anderson, Narus and Narayandas (2009), used by the teacher in the subject.

The figure 8 shows the results obtained from student responses, indicating the main skills for B2B business management, which are divided into Behavioral Skills and Managerial Skills.
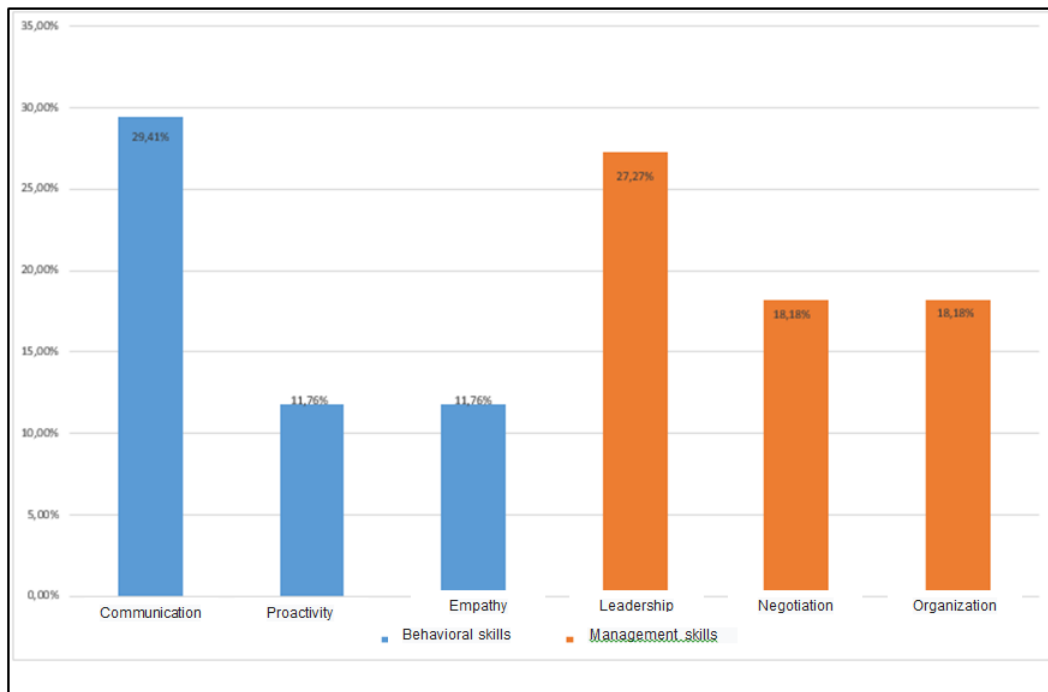

Figure 8: Key B2B Business Management Skills

Developed by the authors

5. MAIN FINDINGS

According to the literature review and data analysis, on the operation of the framework in business marketing management discipline, it is possible to infer the following results:

- First, Bloom's proposed framework, integrated and connected with entrepreneurial education, active learning, design thinking, and taxonomy aims to foster the activities of the highest order thinking and entrepreneurial skills of the undergraduate Business Administration student.
- According to the results analysis point out that the framework, in most of the steps developed by the students develop the activities of the highest order thinking, that is, analyze, evaluate and create.
- Third, the framework fosters the development of entrepreneurial skills in the context of business market management discipline.
- Fourth, that Bloom's integrated framework connected with entrepreneurial education, active learning, design thinking, and taxonomy when used in business curriculum components, particularly, in the Business Marketing Management (B2B) discipline fosters the activities of the highest order thinking and entrepreneurial skills of the undergraduate Business Administration student.

6. CONCLUSION

The present study has innovative findings and practical implications. As for innovation, the results contribute to fill the gap in business education field, particularly in the field of business marketing management. This gap consists of the absence of academic articles on content learning delivered in Business, which adopt integrated tools, based on principles of Bloom's taxonomy, entrepreneurship education, active learning and design thinking. The obtained results contribute to increase the power of comprehension of the learning of contents of business marketing discipline. As for the practical implications, only two are highlighted. In the first practical implication, higher education directors and coordinators, in particular, business undergraduate courses dealing with content linked to companies, may use the proposed framework. In the second practical implication, directors, coordinators and company personnel who work with staff training and capacity building will be able to use the framework and its principles in company training and capacity building programs, making learning more stimulating.

The gap exposed in the academic production of business education related to the incipient amount of academic articles seeking to integrate, connect and interface among entrepreneurship education, active learning, design thinking and bloom's taxonomy. The analysis developed addresses the gap that has been delineated. The main results obtained demonstrate that the objectives established in the article were fully achieved and contribute to the understanding and understanding of the exposed gap.

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