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Entrepreneurship Learning through Active Teaching Methods: Analysis of the Student and Teacher Perception of Learning in Applied Projects

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Abstract
This research investigates the perception of students and teachers of the entrepreneurship discipline regarding active teaching methods and how these learnings are utilized in entrepreneurship projects. Active teaching methods were introduced in the 1970s to create innovative learning experiences and utilize student knowledge. However, not all teachers are qualified or motivated to conduct the teaching process. Contemporary business schools have been guiding teachers and students to explore didactic alternatives, such as Problem-Based Learning, to achieve more effective teaching results. The research seeks to understand how students apply the knowledge acquired in entrepreneurship projects and how these projects are affected by the teaching methods used in the discipline. The results can be used to improve the quality of entrepreneurship education and enhance the practical application of the knowledge acquired by students.
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1. Introduction

Theoretical records highlight that active teaching and learning methods began in the last half of the previous century, and administration courses have been using them since the 1970s (Neto-Mattasoglio & Soster, 2017; Cardoso, 2016). The rationale for the pioneering use of active methods in undergraduate education by administration was due to the need for teachers to share experiences and best practices, as the volume of knowledge and complexity of the business universe grew, and to use the students' own knowledge to generate innovative learning experiences (Moran, 2015; Godoi & Ferreira, 2017; Escrivão Filho & Ribeiro, 2007).

In this sense, academic literature presents research on teaching and learning practices and methodologies for formal education in different areas of knowledge (Souza & Verdinelli, 213; Soares & Araújo, 2008). There is research that highlights the need for alignment between teaching methods and curriculum guidelines, while others expose that the development of skills requires knowledge, experimentation, experience, and preparation of the learner to fulfill the learning in line with the curriculum determinations (Abrão & Torelly, 2005). Therefore, it can be stated that the development of competencies exceeds the standard lecture with knowledge transmission, and learning demands constructive processes around the curriculum guidelines.

Teaching methods must be integrated with the curriculum objectives, and both need to place the student at the center of the teaching/learning process, especially with respect to learning outcomes resulting from the teaching intervention (Ferraz & Belhot, 2010). For competency development in the student, their centrality in the teaching process is required since the method is the procedural link between teaching objectives and learning, all directed by the teacher, who should facilitate the connection of students to knowledge. Thus, the teacher's role should permeate the entire process of constructing the student's knowledge, with direct action in developing the student's autonomy, as well as instilling interest and pursuit of knowledge, in forming proactive professionals (Vendramin et al., 2015).

However, although the aforementioned is well described and clear in theory, previous research identifies that teachers are not always qualified and/or motivated to conduct the teaching process, promote learning, and develop the competencies inherent to the required degree of instruction (Iizuka, 2017). Additionally, changes brought about by technology, especially the internet, have expanded access and contact in formal education but have different characteristics from conventional classrooms, innovating in concepts and teaching/learning methods that teachers are not always prepared to use in the teaching process (Almeida, 2003; Urias & Azeredo, 2017).

It is also observed that these changes were not accompanied by an instruction manual for the implementation of appropriate teaching methods, which becomes another challenge for education seeking to ensure efficiency in developing competencies with social and professional training (Urias & Azeredo, 2017). Moran (2015, p. 16) states that knowledge construction is "[...] based on cognitive, personal and social competencies, [but] they are not acquired in a conventional way and [...] require proactivity, collaboration, personalization, and entrepreneurial

vision," elements that students subjected to rigid and inflexible teaching processes and evaluated without conditions to express learning, will not demonstrate such results.

To bridge the gap between the necessary results and emerging challenges in the teaching and learning process, contemporary business schools have been guiding teachers and students to explore didactic alternatives that are capable of transferring, building, and fixing content and knowledge in a more attractive way. Therefore, there is a need for active intervention in teaching and learning entrepreneurship, as "entrepreneurship, being such a dynamic topic, requires practical, experiential activity in teaching and learning, with the goal of educating and fostering entrepreneurs" (Araújo & Davel, 2019, p. 178).

In theory, Problem Based Learning - PBL, Team Based Learning - TBL, Blended Learning - BL, and Peer Instruction are considered active teaching methods that support achieving more effective teaching results, as there is evidence that they present relevant indexes in learning construction and competency development, both in student and teacher perception (Kodjaoglanian et al., 2003; Sobral & Campos, 2012). However, the effectiveness of using these teaching methods is frequently discussed in the management field (e.g. Escrivão-Filho & Ribeiro, 2008; Souza & Verdinelli, 2013).

Another aspect that arises in theoretical discussions is the need to understand the maturity levels of non-traditional teaching methods, such as active methods, when compared to traditional methods. When analyzing the value of intervention tools and instruments in the teaching process, the techniques' ability to improve student learning and support teaching work must be identified. Additionally, the use and results of different teaching techniques and methods should be analyzed to determine if they produce different learning outcomes, analyzed in specific cases of teaching and learning in administration/management (Araujo & Davel, 2019; Ferreira & Freitas, 2013; Dolabela & Filion, 2013; Souza & Verdinelli, 2013).

Current behavioral changes, new teaching instruments and technologies, and the increased use of creativity and critical thinking to expand learning experiences may relate to the methodologies used and the cognitive domain levels achieved (Bloom, 1956). Finally, evaluating the cognitive domain classification achieved through learning pyramid-based approaches (Glasser, 2001), such as the studies by Carvalho (2007) and Borges (2002), which propose that the student becomes the active center of educational actions, where the teacher serves as a mediator of the entire process.

Specifically regarding teaching entrepreneurship in management courses, two relevant elements are observed to identify the learning outcomes that emerge from the use and application of intervention techniques and methods in teaching and learning: (1) the perception of those who construct and appropriate the taught and learned knowledge - the learner (perception); and (2) the identification of acquired competencies that permeate the three basic dimensions that compose it (knowledge, skill, and attitude) when put to use (application learning outcomes) by those who learned it (Ferreira & Freitas, 2013; Souza, Zambalde & Oliveira, 2013).

Thus, the research question that emerges from this study is: What is the perception of students and teachers of the entrepreneurship discipline regarding learning originating from the teaching process with active methods, and how are these learnings utilized by students in practice when executing an entrepreneurship project?

To address the research problem, experimental entrepreneurship teaching projects in undergraduate courses in Administration (two) and MBA (Master of Business Administration) courses in Business Management (two) were analyzed. The objective was to identify the perception of students and teachers in the entrepreneurship discipline regarding learning performance resulting from the teaching process that uses project-based learning, problem-based learning, and team-based learning methodologies, for both teaching cases. Additionally, the aim was to evaluate whether students actually used the perceived learning when they executed practical entrepreneurship projects, where the use of entrepreneurial competencies in real business and/or social entrepreneurship projects (application) was analyzed.

Although there are other studies that evaluate different active methods in different teaching and learning contexts, the relevance of this research lies in the way it was constructed, as all elements were prepared for the execution of research on learning with the use of active teaching methods, from the conception of the entrepreneurship discipline (undergraduate and MBA) to the completion of the projects. Entrepreneurship projects were constructed and executed to evaluate the performance of students based on the comparison between curricular objectives, perceived learning by students and teachers, and application in the execution of the entrepreneurship project (results), by those who learned (students).

The experimental entrepreneurship teaching projects were directed by level of knowledge, with the aim of identifying differences and similarities between curricular objectives, student and teacher perceptions, and project application according to educational level (undergraduate and MBA). Lastly, a perception analysis was performed after the projects' completion to avoid the influence of grade expectations and results for students. This evaluation was conducted after the entire course had been completed. Thus, the results presented by this study are organized as follows: (2) literature review, (3) materials and methods, (4) presentation of data and analysis of results, and finally, (5) final considerations.

2. Literature Review

Entrepreneurial education is one way to develop entrepreneurship through educational programs that incorporate the entrepreneurial spirit, which is a culture expressed through a type of thinking and action (Dolabela & Filion, 2013). In this context, entrepreneurship follows the path of teaching and learning, as part of the process of building, transferring, and absorbing knowledge inherent in the act/action of entrepreneurship (Araújo, Pandolfi, & Morais, 2019; Ferreira & Freitas, 2013). However, it should be noted that learning for entrepreneurship can occur in both the context of formal education, at different levels and areas of study, as well as in non-formal learning spaces, such as professional practices, work action, continuing education, among others.

Although both learning contexts (empirical and formal) can generate knowledge necessary for the act of entrepreneurship, there are differences between them regarding the teaching process and the construction of the necessary learning for entrepreneurial knowledge. Specifically, when addressing formal teaching and learning processes in the light of pedagogical practices, emphasis is placed on teacher-centered or student-centered teaching and learning processes. Teaching can have the teacher at the center of the process, with lectures for the transfer of knowledge, or the core can be the student, who takes an active role in the construction and appropriation of knowledge as an autonomous responsible for its construction, selection, classification, and absorption of the knowledge source for knowledge (Souza & Verdinelli, 2014).

Thus, when addressing educational practices with teaching and learning processes centered on students, called active methodologies, it is identified that business and administration courses have been using them as educational strategies since the 1970s (Neto-Mattasoglio & Soster, 2017; Cardoso, 2016). However, there are still some issues in the theory that need to be better clarified, as there are (i) divergences regarding the results and efficacy of active methods for learning (Prince, 2004), (ii) teachers who use active teaching methods do not differentiate them in terms of techniques and methods to achieve results (Prince, 2004), and (iii) most educational institutions [in Brazil] are still stuck in the last century with traditional teaching (Elua Roble, Augusto, & de Morais, 2019; Morán, 2015).

Furthermore, when it comes to entrepreneurial education, Dolabela and Filion (2013) argue that, from the perspective of entrepreneurship, change begins at the base, referred to in this study as the micro-foundation of entrepreneurship, the entrepreneur. For these authors, "entrepreneurship offers new perspectives for modifying existing patterns and learning processes" (Dolabela & Filion, 2013, p. 136) in this educational triad: teacher, teaching-learning process, and student/learner.

Therefore, there are operational relevance issues about the application of didactic approaches in teaching practice and current theoretical reflections: what are the similarities and differences between active and traditional practices for teaching and learning? Is it possible or necessary to combine them to provide better learning for students? What is the evidence of the effectiveness of active teaching methods in building learning and knowledge? Thus, the importance of "[...] learning suggested by the logic of entrepreneurship, the selection of appropriate pedagogical approaches, as well as the impact generated through social change and local development" (Dolabela & Filion, 2013, p. 138) is identified.

In this theoretical context, this research aimed to identify, select and organize the elements of the literature concerning the objectives of educational processes (curricular components and desired competencies) and the instruments of teaching (methods) and learning products (results). To do so, Bloom's taxonomy (1956) and Glasser's pyramid (2001) were adopted in analyzing the level of learning based on the use of the PBL (Project Based Learning) teaching strategy and the PBL (Problem Based Learning) and TBL (Team Based Learning) methods, used together to generate practical learning outcomes.

2.1 Bloom's Taxonomy and Glasser's Pyramid in Learning

Ferraz and Belhot (2010, p. 422) state that the term taxonomy refers to "classification, denomination, and organization of a predetermined system [...] resulting in a conceptual framework [...]" and that Bloom's taxonomy (1959) is the "taxonomy of objectives for educational processes". Bloom's taxonomy (1959) is categorized into levels of learning objectives in specific domains of cognitive, affective, and psychomotor development, organized in a hierarchy from lower to higher levels of complexity (educational objectives) (Gualhardi & Azevedo, 2013).

On the other hand, Glasser's Pyramid is one of the models that relates to the effect of different learning actions on the retention of knowledge and skills. This model identifies the results of learning actions translated into experiences of more or less effective learning, with retention rates ranging from 80 to 100% when the learning action is more effective, or retention rates of only 5 to 10% when the effect of the learning action is less effective (Letrud & Hernes, 2018).

2.1.1 Bloom's Taxonomy

The term "taxonomy" is used in different areas of study and, according to the Aurélio dictionary (2010), it is the "Science that deals with classification; technique of classification or systematic distribution into categories." The Taxonomy of educational objectives or Bloom's taxonomy seeks to classify levels of learning or cognitive mastery to measure educational objectives, as well as to facilitate communication among educators by verifying the results of the behaviors and knowledge of the learners. Thus, at each level of the Cognitive Domain, from the lowest to

the highest level of abstraction of the students, the intended learning outcomes and the levels of complexity of the expected competencies, appropriate tools and instruments for didactic and methodological intervention must be used.

Among the teaching and learning methodological strategies, there are analyses that reveal the convergence of active teaching methodologies towards the improvement of the learning process, especially with the current advancement of technology and the popularization of online learning. The integration of technology into new educational models has transformed the way people access information, with less relevance for traditional teaching methods, in proportion to the popularization of the internet, allowing access to a large repository of knowledge, with accessible and instantaneous experiences (real-time) (Moran, 2015; Urias & Azeredo, 2017). This teaching and learning model aims to replace the processes of memorization and unidirectional and fragmented scientific knowledge transfer, through active learning processes and actions, in three domains of knowledge (Bloom et al, 1956): affective, cognitive, and motor.

The Affective Domain includes objectives that describe changes in interests, attitudes, and values, and the development of appreciations and adjustments (Bloom, 1956, p. 7). Ferraz (2010) relates this domain to the individual's feelings and attitudes. He sub-listed categories related to the development of the emotional area, which are: Acceptance (Reception of Situations), Response (Response to Situations), Valuation (Values), Organization, and Internalization of Values (characterization). The authors recognized that it is difficult to describe such behaviors objectively, as they involve internalized feelings and emotions that can interfere with the manifestation of the behavior to be observed.

The Motor Domain refers to specific physical skills. Although the study group recognized its existence, little was found in the literature at the time on the subject for them to organize a classification. However, according to Ferraz (2010), other researchers defined the categories of this domain that are related to muscular development and specific movement coordination skills, which are: Perception, Direction, Directed Response, Mechanism, and Open Complex Response.

And finally, the Cognitive Domain that emphasizes the construction of knowledge. With this, it helps in the development and definition of terms, which allow the understanding of similarities and differences in educational objectives through the comparison of evaluation devices to determine the effectiveness of lesson plans.

Regarding the Cognitive Domain, Bloom organized objectives into a taxonomy of six classes, based on levels of depth (Bloom, 1956). The levels arose from the idea that a simpler behavior can become more complex as it integrates new actions and data about the studied subject, when the acquired skills/knowledge are cumulative, in a relationship of dependence between the levels. Monteiro et al (2012) help to understand what is expected of the student's response at each level, as they listed the levels of behavior and what is observed in each of them.

a. In the first level (Knowledge), the objectives are linked to memorization, recall, or remembering elements of the given subject without necessarily knowing details, systematizing a solution, or making generalizations – the question is to find evidence of universal knowledge of a certain subject.

b. In the second level (Comprehension), the student should be able to demonstrate the content using other forms of expression (written or spoken), as they have already internalized and systematized the knowledge. Understanding is demonstrated through translation (fidelity to the material, even in an unordered way), interpretation (a new view of the presented material), or extrapolation (implications beyond the presented material).

c. In the third level (Application), the student should become less dependent on the teacher. In a new situation, they develop different ideas, procedures, and methods to solve them by reading a new possibility or reality.

d. The fourth level (Analysis) allows for the identification of each element, the understanding of knowledge in parts and as a whole, and how these parts relate to each other, with a view to the foundations and principles for the formation of the whole.

e. The fifth level (Synthesis) is the combination of elements from different contexts, but they are used to construct a new whole not previously evident, where the student will produce their own ideas, plans, or products.

f. The sixth level (Evaluation) is the judgment of value (qualitative or quantitative) on a subject based on external criteria or internalized foundation.

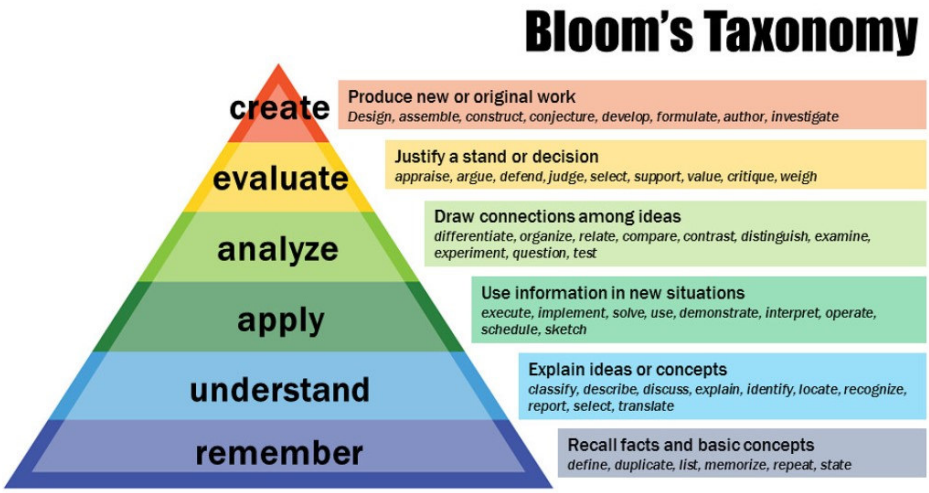

Figure 1. Bloom's Taxonomy

Anderson and Krathwohl (2001) proposed a two-dimensional framework for teaching that includes not only the content learned (content dimension), but also the process by which the student learns (process dimension). This assists in defining institutional objectives and techniques for assessing learning, as each category is associated with a verb, but it is not disconnected from the previous or subsequent verb. According to Krathwohl (2002), objectives generally specify what students are expected to learn, but do not explain what they will do with the knowledge acquired. He describes objectives using action verbs and uses nouns for the cognitive processes sought.

For example, in a lesson plan that aims for students to be able to recognize (verb) the states of water (noun/content) by the end of the class, it is necessary to make clear how it will be verified whether they will really recognize this content and how they will use it. Based on this point (verb/noun), Krathwohl et al (2001) realized that changes were necessary, and by relating verbs and nouns, they concluded that these belonged to different dimensions, and that nouns form the basis for the knowledge dimension (what) and verbs for the dimension related to cognitive aspects (how). This resulted in the two-dimensional character of the new Bloom's Taxonomy (Dimension: knowledge - what; Dimension: cognitive processes - how), as adapted from Ferraz (2010, p. 425). With this regrouping, it became easier to define learning objectives clearly and align them with assessment activities.

In addition to the two-dimensional structure, the Revised Bloom's Taxonomy (Krathwohl, 2002) reordered the sequence of verbs and created subcategories associated with the main verbs; used verbs in the infinitive and subcategories with verbs in the gerund; and renamed the category "Knowledge" to "Remember," "Comprehension" to "Understand," and "Evaluation" to "Create,". According to Ferraz (2010, p. 427), the new taxonomy emphasized "discussion of the analysis and interpretation of subcategories with the intention of meeting the need to stimulate cognitive development," thus expressing the expected action and how the results are expected to be perceived.

After that, there was another update aimed at the digital environment, including new behaviors (Churches, 2009), called the Bloom's Taxonomy for the Digital Age or Digital Bloom's Taxonomy. It covers behaviors, actions, and opportunities more common to information and communication technologies to meet learning in digital environments and incorporates online tools and platforms, web, videos, blogs, and so on. This re-reading proposes to take advantage of the wide reach of technology to meet new behaviors by using pedagogical practices that are closer to new processes focusing on the quality of the process. The Digital Bloom's Taxonomy relates the Cognitive Domains of the Revised Bloom's Taxonomy to the didactic-technological resources offered by the internet.

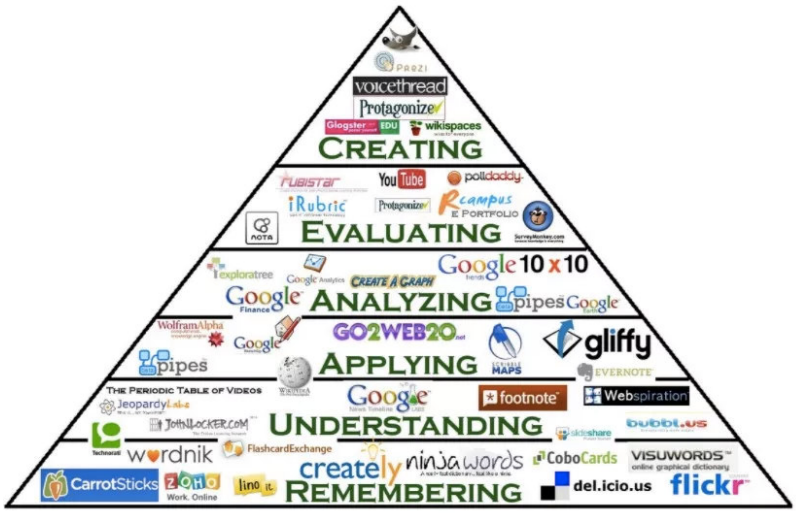

Figure 2. Bloom's Taxonomy for Digital Learning

In the figure, it can be observed that the same technological device is diffused among the various levels of learning, as this depends on how the teacher plans their objective and how the student develops their knowledge. It is therefore perceived that learning is given by the way in which tools are used, bringing the student closer to the desired objective. The purpose is not the tool, but how it is used and how teacher and student work together in the learning process. For Churches (2009), even though there is a classification into levels, in this new version of the taxonomy they cease to be hierarchical, as cognitive levels can easily flow between each other without losing their characteristic features. By applying technology in education, the possibilities for more interactive and tailored learning to the student's needs and pace are increased.

2.1.2 Glasser's Learning Pyramid

The theory of choice applied to education, developed by psychiatrist William Glasser (2001), demonstrates how learning is acquired and how people can become more critical, engaged, and aware, through the awareness and desire to learn. Glasser argues that learning can go beyond memorizing concepts, proposing that classes be more practical (with students doing) to achieve a high degree of learning (Glasser, 2001), as shown in the Figure.

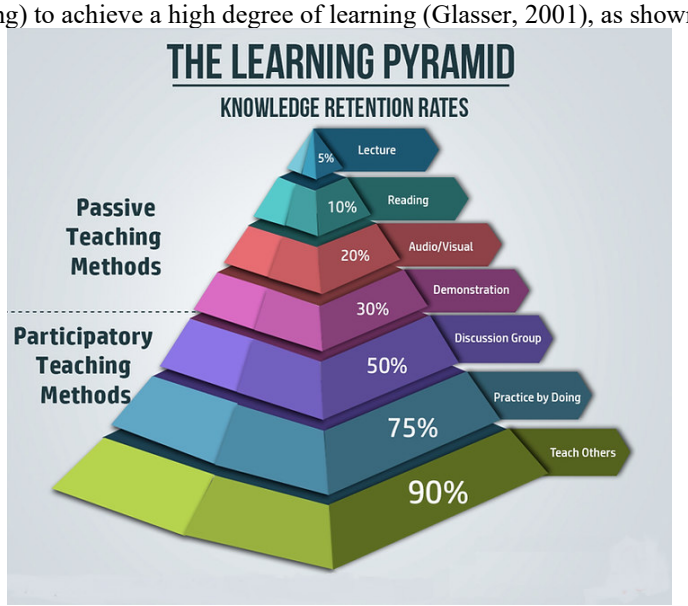

Figure 3. Glasser pyramid or Learning Pyramid

In a study conducted at the University of Washington, the performance of students in active learning methodologies and traditional methodologies was measured, and it was found that the performance of students who only participated in lectures (traditional) was on average 1.5 times lower than those who had classes with active methodologies (Freemann, 2014). It was concluded that there are more benefits in active learning, as it improves critical thinking, increases absorption of information, improves critical analysis in the use of this information, increases motivation, and improves interpersonal skills.

In this context, Glasser's (2001) Learning Pyramid presents a possibility of changing the view of teaching, in which the student ceases to be a passive agent, who receives content in the classroom, and becomes an active

participant in the learning process, being stimulated to construct knowledge. In this theory, the assimilation of content when the student participates in lectures is minimal, but when he tries to explain the subject to someone else, retention and understanding are much higher.

Willingham (2013) questions the variables that affect memory retrieval in the classroom, and although there are doubts about the reliability of the research, especially regarding the percentage of content absorption, it can be noted that the shift in focus of classes from content to the student improves their learning. Hence, it is understood that the higher the student's participation and active attitudes towards knowledge, the higher the cognitive levels reached in Bloom's Taxonomy. Conversely, a passive methodology (listening and reading, for example) reaches lower levels of learning. Thus, one can understand the cognitive levels of Bloom's Taxonomy according to Glasser's Pyramid.

a. **Traditional methodology:** classes are lecture-based, and learning is centered on the teacher's presentation of content; the student is the recipient of the content and seeks memorization to succeed in evaluation, meaning evaluation involves reproduction of knowledge, but the methodology does not encourage the student to question, investigate, or critique reality.
b. **Active methodologies:** are learning development processes in which the student ceases to be a mere recipient of knowledge and becomes the constructor; they have broader objectives than traditional methodologies and aim to work with deeper levels of knowledge; the teacher becomes a guide/mentor in the teaching process (KANE, 2004). The practices used in this research were:

- **Team-based Learning:** The teams formed must work within the same physical space (classroom, most of the time), where students involved in the groups are previously prepared for the classes, since challenges can be launched to the groups before, during, or after the classes. Moreover, it is important to highlight that there is no need for students to have prior knowledge of teamwork, as they will be subjected to activities that will allow them to develop these skills intrinsically. The theoretical foundation of TBL is based on constructivism, making the teacher not the central figure, but a facilitator of learning in an egalitarian environment. The groups must be formed in a way that allows for the completion of the assigned tasks, seeking to minimize barriers to group cohesion, including diversity in their composition and providing the necessary resources.
- **Problem-Based Learning:** It is a strategy in which students work to solve a real or simulated problem, the praxis in education (Souza & Dourado, 2015). This view is based on the principles that classes are organized by theme and not by disciplines, with interdisciplinary integration, in the connection between theory and practice, focusing on cognitive development. Learning is based on the reconstruction of experience and can be used at all levels of learning.
- **Project-Based Learning:** It is a technique that focuses on practical experiences, leading to greater student participation during the process of complex learning, making it possible to create more engaging and systemic experiences, lasting and actually impactful, centered on collaboration between students, leading them to develop useful and necessary skills to develop complex things.

3. Methodological Procedures

This research uses a qualitative approach (Godoy, 1995) with a descriptive typology (Alves; Gonçalves, 2017) and a case study strategy (Yin, 2001). The overall objective was to understand the perception of undergraduate and postgraduate (MBA) students in administration courses about the quality and effective learning outcomes with the use of an active learning method based on project-based learning (PBL). Qualitative research allows for a greater understanding of the individuals involved, without seeking regular patterns, but rather motivations for their actions (Godoi & Balsini, 2010).

Triviños (1987, p. 110) highlights that descriptive studies "[...] aim to deepen the description of a certain reality." The research method used was the case study, characterized by the in-depth and exhaustive study of one or a few objects (Gil, 2008). The data collection instruments adopted by this research were interviews with MBA students and focus groups with undergraduate students, tools commonly used in qualitative research according to Dias (2000, p. 8), "among the techniques most used in qualitative research, are non-directed and semi-structured interviews, projective techniques, and focus groups." Content analysis was used to analyze the collected data, which "consists of a manifest set of the interviewees' statements" (Barros, 2014, p. 96).

Data collection was carried out considering primary and secondary sources. Primary data were collected through semi-structured interviews with ten students from a class of twenty-nine MBA students in Business Management, and through a focus group with twelve students from a class of thirty-three undergraduate students in Administration, all participants in projects using the active learning method based on project-based learning (PBL). The first group consists of undergraduates, beginners in higher education, studying the first semester of the bachelor's degree, and are identified in the data analysis with the code name "G" preceded by ascending numbering according to the number of respondents, the second group is in postgraduate studies and is identified in the data analysis with the code name "P" preceded by ascending numbering according to the number of respondents. A

semi-structured script was prepared to guide the research with each group within the proposed theme, allowing for flexibility in responses and incorporation of new items and interpretations of the researched reality at the time of collection. The secondary data used for the theoretical-methodological foundation of this study were obtained through a literature review. The data collection was carried out during February 2019, and as this research is qualitative in nature, there was no predefined number of respondents, but rather saturation of information (Godoi & Mattos, 2006), under the accessibility criteria for the selection of respondents (Gil, 2008).

4. Data Analysis and Research Results

In this topic, the results found in the empirical research are analyzed and discussed. The perception of undergraduate and MBA (Master of Business Administration) students in administration, as well as teachers involved in the process, was mapped regarding the use of active teaching methods for the analysis of experiences in the teaching/learning process. In a second stage, the written projects of the academics were analyzed to verify convergences and divergences between the actors. The active methodologies PBL (Problem Based Learning), PBL (Project Based Learning), and TBL (Team Based Learning) were used in practical cases, which are the focus of data collection in this research.

The undergraduate students in Administration developed the project oriented towards profitable enterprises, creating and implementing a (simulated) company in a real environment, called "Business Factory," using all managerial processes and tools of administration for the management of the created business, with a focus on the creation and management of a simulated company in a real project, with the production and commercialization of services and/or products. Among the activities developed, the external investment capturing for the maintenance of organizational activities and the accountability to maintain transparency of the business and ensure reliability to stakeholders stand out. The postgraduate students in Business Management developed the project oriented towards social enterprise (non-profit), converging to contemporary appeals of social responsibility and called the project "Doing Good." The main objective of projects focused on social enterprise was to contribute to welfare institutions through the development and implementation of management-directed actions, with a focus on the production and delivery of products and/or services that met the needs of groups with specific dependencies, such as nursing homes, daycares, or other social organizations.

The collected data bring the perception of the participants regarding, first, the ability of active methods to add knowledge; second, the perception of the difference in the teaching/learning process when compared to traditional methodologies; third, which elements contributed to the perception acquired in the development of their respective projects. All participants were able to express their perceptions about the questions of this research. Such participants are identified in this work with code names beginning with "G," for undergraduates, and code names beginning with "P," for postgraduates, in order to analyze perceptions individually.

The participants of the "G" group, without exception, stated that the use of active methods in the learning process adds knowledge, and they perceived the effectiveness of the method in transmitting knowledge. About 58% of the participants stated that contact with something new has a stimulating effect, fostering engagement and competitiveness, as participant G6 states: "[...] contact with the new, and having to search for solutions, brings experiences not yet lived, and this adds knowledge" (G6). The interaction between practice and theory brought by active methods made it possible to "[...] identify situations of possible difficulties that may be faced in a real scenario [...]" (G4). About 41% of the surveyed undergraduates emphasized that the errors made during the management process instigated the search for solutions and consequently expanded the field of vision of knowledge. The participants of the "P" group also unanimously expressed the capacity of active methods to add knowledge in the teaching/learning process. About 60% of the respondents emphasized that the multiple competencies involved in an enterprise are positive, as P5 describes: "[...] the interaction of people with different competencies united potentiated the development of the project" (P5), becoming a bridge for growth in knowledge "[...] people with whom we got involved taught us 10 times more [...]" (P2), because different competencies and knowledge are added to a shared objective. Another 30% described that combining theory with practice added knowledge, as P1's statement describes: "[...] because it developed the capacity for planning, attitude, control, involving coordination of people and resources [...]".

In response to the second question, the participants of the "G" group unanimously described that there is a noticeable difference in the learning process when compared to the use of active methods with other traditional methodologies. The development of projects with active methods, "[...] showed how real situations are more complex than theory can transmit and that simulation with reality shows how much we must prepare to face real scenarios [...]" (G7), as being active in the learning process allows one to "[...] put theoretical knowledge to the test in the real world [...]" (G6). The "P" group also perceived that there is a difference in the teaching/learning process with the use of active methods when they expressed that "[...] practical methods put knowledge to the test and challenge acquired knowledge [...]" (P1), that "[...] with each stage implemented in the project, we advanced with greater ease in knowledge [...]" (P2), that the "[...] demonstration of individual and collective results was confronted, and we had a new starting point, with the result in mind [...]" (P3) and that the "[...] freedom to solve

each item in the project brought the possibility of testing knowledge." (P4) and (P6). The perception of the research participants indicated in detail that there is a difference in the use of active methods as practice for the teaching/learning process compared to traditional methods.

The collection of participants' perceptions enabled the identification of elements that influenced the teaching/learning process (third question). The undergraduate students perceived elements that, throughout the development of the ventures, interfered in some way in the learning process, listed as follows: (1) ANTICIPATION OF PRACTICE - indicates the development of practice before the theoretical basis; (2) SIMULATION IN A REAL-LIFE SCENARIO - comprises simulated practice in real-life situations; (3) ERRORS - indicates reflection on mistakes made and the search for solutions and non-repetition; (4) CHALLENGES OF SOMETHING NEW - comprises the motivation instigated by events not yet experienced; (5) TEAMWORK - indicates the clustering of competencies and greater productivity.

The elements identified by the graduate students are listed below: (1) PRACTICAL APPROACH - indicates the possibility of applying theory to practical actions; (2) COHESIVE TEAM - involves the synchrony between the components of the work team; (3) THEORETICAL BASIS - points to the previously acquired theoretical knowledge as the guiding principle of actions; (4) TEACHER GUIDANCE - involves the ease and quality of support from the teachers involved in the project guidance; (5) MISTAKES - indicates reflection on mistakes made and the search for solutions and non-recurrence; (6) EMPATHY WITH SOCIAL PROJECT - involves the level of familiarity of the researcher regarding involvement in other social projects.

Almost all participants indicated a positive perception regarding the influencing elements, except for participant "G5," who identified the "MISTAKES" element as negative to the learning process, stating that "...mistakes that required quick resolution left the project stagnant..." (G5).

The other surveyed participants perceived elements as potentially contributory to the teaching/learning process, as expressed by G3 "[...] the mistakes that happened are what sticks in the mind the most, and the discussion of these for a solution is what fixed the knowledge," even when "dealing with a real scenario and being in contact with businessmen from the city who invested in our business" (G9), which according to them added practical experience. The undergraduate students pointed out that the fact that they developed the project in the first semester of their degree (a period in which they are immature regarding management) made them "[...] learn more from mistakes" (G5).

The participating graduate students perceived the elements as contributory to the teaching/learning process, as they highlighted that "[...] applying what was put on paper accelerated our learning [...]" (P1), that "[...] the main factor that contributed to the project was the commitment of the team to our purpose [...]" (P2), and the role of teachers when they "[...] gave us direction, which helped a lot since it was a job that we had never done before [...]" (P4).

5. Conclusion

Teaching and learning are dynamic actions with factors that can be controlled (such as the topic being taught, classroom time, etc.), but there are also uncontrollable variables that can receive influences (such as the student's previous experiences, stimulation, concentration, etc.). The rapid growth of technology, behavior modifications, and the various needs of individuals require adaptations in all areas, including education. Thus, the educational process needs to develop new methods of teaching and learning that adapt and keep up with the evolution of knowledge. In this sense, the application of new technologies and teaching methods in entrepreneurship education has helped in the learning of new entrepreneurial professionals.

Bloom (1956), in classifying levels of learning, brought to light the need to understand how to bring knowledge to students. Krathwohl (2001) raised the question of how such knowledge should be presented to the group. From this understanding, it is evident that active methods have facilitated learning outcomes in education, with the necessary demands for changes in the behavior and posture of the student and the teacher.

Glasser (2001), in presenting the Learning Pyramid, highlights the paradigm shift in teaching methodologies, confirming what many have already noticed about the change in attitude for greater absorption of learning. Confirming the numerous methodologies that have been applied inside and outside the physical classroom, it shows that yes, the student learns and comprehends more when they become responsible for their learning. It was noted that when working with students using active methodologies, as per Glasser (2001), much more and better absorption of knowledge and learning is promoted. In this sense, the educational process needs to make room for active learning methods that accompany the massive insertion of technology use, teaching outside the classroom, outside of the scheduled time, outside of any predetermined angle and still achieve Higher Order Thinking Skills (Churches, 2009).

Analyzing the learning outcomes obtained with the use of active methods in teaching entrepreneurship in undergraduate and MBA (Master of Business Administration) courses, the perceptions of students and teachers, and reports on entrepreneurial and social project activities were evaluated. The evaluation and analysis of results were carried out through a comparison of student and teacher perceptions and the reports on the projects, especially

regarding the positive and negative aspects of teaching and learning, based on propositions constructed based on Bloom's taxonomy (1956) for evaluating and analyzing learning outcomes (Glasser, 2001).

The empirical data shows that the main influencers of learning through active methods are in the group (team) and in practice (problem), with other elements as mediators of the process, such as theory, teachers, and errors (reinforcers). Another relevant aspect of learning is that active methods used together can better support learning on a broad scope, such as project-based learning, which, associated with problem-based and team-based learning, even though the former is more robust in terms of time and results, the latter two active methods had more impact on individuals. Learning through projects was less remembered as relevant than problems and the team.

As limitations, there is the use of quasi-experiments, with low possibilities of tests and control groups, which is also an opportunity for future research. Another limiting aspect is the regional (local) nature of this study, which is also an opportunity for future research, that is, composing larger samples in field studies may have greater capacity for generalizations. Finally, it is suggested to conduct educational social experiments, as there is a greater capacity to control findings and results, such as verifying whether age, beliefs, socioeconomic or cultural condition, typology of content, among others, are relevant to greater or lesser learning outcomes through active methods.

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