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The adoption of learning strategies among the newcomers in the Accountancy program of a public HEI in Minas Gerais, Brazil

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Abstract

Objective: To identify the learning strategies college students entering an Accountancy program adopt and their perceptions regarding their use. Learning strategies are classified into cognitive, metacognitive, or lack of strategies.

Method: Data were collected during workshops addressing learning strategies among the students entering the Accounting Sciences program of a public Higher Education Institution (HEI). Questionnaires were applied as proposed by Boruchovitch et al. (2006). In addition, focus groups were held. The study addressed 132 students who completed the questionnaire; 26 of them took part in focus groups.

Results: In general, metacognitive learning strategies were most frequently adopted, indicating that students are aware that studying is associated with good performance, and distractions may impact their learning process. Finally, professors play a role in academic performance, as students believe that professors are more experienced and can support their learning process.

Contributions: This study's contributions include the perception of students entering a higher education program regarding the teaching-learning process and reinforce the importance of using such strategies, which professors can encourage.

Keywords: Learning Strategies; Teaching-learning process; Newcomers.

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1. Introduction

Entering higher education is a desire of many people seeking opportunities when choosing a specific program. However, the transition to college life is marked by some difficulties, for instance, related to institutional adaptation, relationships, economic resources, vocational issues, and even the learning process (Casanova, Araújo & Almeida, 2020).

When specifically considering difficulties related to learning, it is worth noting the role of students. In this sense, self-regulation is crucial, that is, the student's control over his/her cognitive process, behaviors, motivations, and the use of strategies to achieve specific educational objectives (Panadero & Alonso-Tapia, 2014).

Souza (2010) shows that learning strategies consist of methods students use to learn new content and develop skills that will contribute to tasks in the various fields of learning. Oliveira, Boruchovitch, and Santos (2009), in turn, note that learning strategies enable students to enhance their learning.

When students self-regulate the adoption of strategies, they become more committed to their learning (Weinstein, Acee & Jung 2011). The role of professors in disseminating and encouraging these learning strategies is highlighted though; that is, professors can help students adopt these strategies to improve their academic performance (Souza, 2010).

Regarding the use of learning strategies in higher education, students tend to use them differently (García-Perez, Fraile & Panadero, 2020). Evidence shows that these strategies vary in Accounting Sciences, depending on the students' characteristics (Lima Filho, Lima & Bruni; 2015) or motivational issues (Castro, Miranda & Leal, 2016; Daciê & Anzilago, 2019). Additionally, findings (Ballantine, Duff & Larres, 2008; Hall, Ramsay & Raven, 2004; Silva & Biavatti, 2018) show that different teaching methodologies may increase the use of strategies, suggesting the professors' influence in the teaching process.

Based on the previous discussion, the following research question is proposed: **What learning strategies do students use, and how do they use these strategies to study?** Hence, this study's objective was to identify the learning strategies students entering an Accounting Sciences program use and their perceptions regarding these strategies. The secondary objective is to identify the students' perceptions regarding the professors' influence on the choice of learning strategies.

This study sought to corroborate previous literature, and its value lies in the assessment of what learning strategies students entering an Accountancy program use in their learning process. An undergraduate program demands thinking and critically considering content so that students need to be the protagonists of their learning process, as shown by Waterkemper and Prado (2011).

The use of learning strategies may be directly linked to students' academic success, as noted by Oliveira et al. (2009) and Warr and Downing (2000). From this perspective, Weinstein et al. (2011) defend the strategies that contribute to better use of higher education studies based on students' greater autonomy.

This study is expected to contribute by identifying the learning strategies of students entering an Accounting Sciences program and the potential methods and preferences in this program, also identifying students' perspectives regarding the role of professors in the use of these strategies. Additionally, this study's contributions include the method in which data are collected, which was through workshops addressing learning strategies among newcomers.

2. Theoretical Framework

The theoretical framework addresses learning strategies, showing the importance of using them and their influence on the learning process. Additionally, correlated studies addressing the learning strategies adopted by undergraduate students, especially those attending Accountancy programs, and professors' influence on the students' preferences are presented.

2.1 Learning Strategies in the Teaching Process

The seminal studies by John H. Flavell (1979) in the 1970s and 1980s addressing active cognitive processing provided evidence that learning strategies promote the learning process (Weinstein et al., 2011). As a result, research addressing this topic started, and authors sought to establish theoretically what learning strategies are.

From the perspective of Mayer (1988), learning strategies are behaviors that influence information processing; Dembo (1994) considers that these are processes and methods students use to facilitate the acquisition, use, and storing of information. Valle Arias, Lozano, and Cabanach (1999) define learning strategies as learners' conscious actions when performing a task, using procedures, tactics, and techniques to achieve learning objectives. Boruchovitch (1999) reports that learning strategies comprise a fundamental process of the students' ability and learning process, preventing learning difficulties. Oliveira et al. (2009) and Warr and Downing (2000) state that these strategies enhance and promote students' learning and improve their ability to recover previously learned information.

Summarizing the previous paragraph, this study considers that learning strategies can be understood as behaviors that influence the processing of content so that different learning objectives demand different strategies.

When discussing learning, self-regulated learning is important, which assumes that students can plan and adopt strategies to achieve a given learning objective (Freire, 2009). Furthermore, self-regulated learning indicates that students are more autonomous and proactive in the learning process (Simão & Frison, 2013).

Self-regulation helps students manage their learning process strategically and figures among the three main elements in the scope of learning strategies. Second come ability, which concerns knowledge on how to use strategies, and will, which concerns motivation and affective elements of strategies (Weinstein et al., 2011); hence, the importance of using self-regulated strategies to pursue academic success (Weinstein et al., 2011).

The strategies used in the learning process comprise actions that enable students to be more efficacious when performing a task (Ribeiro, 2003), contributing to information processing (Oliveira et al., 2009). Previous studies (Boruchovitch, 1999; Boruchovitch, 2006; Boruchovitch & Santos, 2015; Oliveira et al., 2009; Ribeiro, 2003; Souza, 2010) classify learning strategies broadly in two large groups: metacognitive and cognitive.

Metacognitive learning strategies concern planning, monitoring, and regulating techniques used before and after the learning process (Valle Arias et al., 1999). The idea of metacognition conceived by Flavell (1979) consists of recognizing one's knowledge to learn, highlighting the importance of learning how to learn in the process (Ribeiro, 2003). Furthermore, even though metacognition has different concepts, common aspects include mechanisms that support the promotion, production, and recording of information, and monitoring one's intellectual process (Lima Filho et al., 2015).

Metacognition helps improve cognition, motivation, and learning (Ribeiro, 2003). For this reason, it is constantly required in an academic environment and should be the object of intervention to prevent learning difficulties (Corso, Sperb, Jou & Salles, 2013). In this sense, metacognitive strategies are those related to monitoring and self-controlling the learning process, which evidences the students' ability to reflect upon this process (Boruchovitch, 1994). Hence, metacognitive strategies can boost students' learning (Oliveira et al., 2009).

Cognitive strategies are techniques used by students to accomplish the learning process (Valle Arias et al., 1999) and are directly related to the learning objectives (Boruchovitch, 1994; Ribeiro, 2003). These cognitive strategies can be used after the metacognitive ones when students decide which path to follow to learn content whenever they are faced with a situation (Ribeiro, 2003).

Comparison between the two groups of learning strategies shows that the metacognitive strategies are broader (Souza, 2010) and refer to an awareness process when facing situations in which the desired learning is not being achieved. Thus, metacognitive strategies comprise planning, monitoring, and regulating cognitive, affective, and motivational processes (Boruchovitch et al., 2006).

Cognitive strategies are more specific as they are associated with the performance of tasks (Souza, 2010). As noted by Abdullah et al. (2015), this group of strategies comprises three branches: rehearsal, which consists of repeating learned information; elaboration, which refers to associating new and previous information; and organization, which concerns the structuring of knowledge to be acquired.

Considering the differences between the two groups of strategies, Table 1 presents the definitions and procedures adopted in each group.

Table 1

Learning Strategies

Strategies	Definitions	Procedures
	Metacognitive learning strategies	
Planning	Setting goals to study.	Matching strategies to the learning objectives.
Monitoring	Self-knowledge of cognitive skills and limitations	Monitoring motivation and anxiety, planning tasks, controlling effort, monitoring and regulating understanding of content, identifying and correcting mistakes, controlling time, and organizing the study environment.
Regulation	Knowledge regarding learning strategies, how to use them, and under what circumstances	Be aware of the various strategies and change them in case learning objectives are not achieved.
	Cognitive learning strategies	
Rehearsal	Actively repeating what is being learned.	Taking notes, listening to recordings or podcasts addressing content, highlighting the material.
Elaboration	Treating and transforming the material so that it becomes meaningful.	Paraphrasing, summarizing, explaining to someone, making questions and answering them, and making comparisons.
Organization	Designing a layout of the material to differentiate or organize it to make it meaningful.	Developing conceptual maps, schemes, lists, and diagrams.

Source: developed by the authors based on Abdullah et al. (2015), Boruchovitch e Santos (2015), and Weinstein et al. (2011).

After analyzing Table 1, one must consider that the students' means and learning methods are not unique. Each student uses and seeks what s/he considers to be the best or most appropriate so that there is not always a unanimous opinion regarding learning strategies. According to Borges (2016) and Weinstein et al. (2011), some procedures can be helpful for a given student profile, while others may not. For this reason, students should be trained to assess what strategies are the most appropriate for their learning objectives (Boruchovitch, 2006).

Learning strategies are sensitive to the educational environment in which students are inserted (Hall et al., 2004), so that different content and activities may demand new strategies and/or reformulate previous ones. In this sense, Souza (2010) stresses that one must consider the classroom environment, and professors should encourage students to adopt new learning strategies.

Professors can encourage the adoption and knowledge of new learning strategies by providing studying techniques or applying activities that encourage students to reflect upon their learning (Ballantine et al., 2008; Boruchovitch, 1999). Additionally, the combination of strategies, using more than one strategy, is also beneficial and contributes to improved results (Glogger, Schwonke, Holzapfel, Nuckles & Renkl, 2012).

As opposed to what was previously discussed, there is also a lack of learning strategies. According to Boruchovitch et al. (2006), a lack of learning strategies results from negative behaviors that influence the use of learning strategies or even prevent the use of strategies and lack of regulation. Castro et al. (2016) note that the more external pressure a student experiences regarding learning issues, the fewer strategies are used.

The reasons for not using learning strategies or having unfavorable behaviors vary. According to Mateus & Brito (2011) and Araújo, Santos & Alves (2019), however, this study presents one factor that may harm students: using mobile phones during classes. These authors note that mobile phones generally distract students, and the inappropriate use of these devices may harm their learning.

After presenting the main concepts concerning learning strategies, correlated studies addressing students from different fields (García-Perez et al., 2020; Monteiro, Vasconcelos & Almeida, 2005), exclusively addressing students from the Accounting field (Ballantine et al., 2008; Castro et al., 2016; Daciê & Anzilago, 2019; Hall et al., 2004; Lima Filho et al., 2015; Morozini, Cambruzzi & Longo, 2007; Silva & Biavatti; 2018; Vasconcelos & Araújo; 2017), and studies addressing the learning process and learning strategies are presented.

Monteiro et al. (2005) analyzed learning methods among 242 students attending the first year of engineering programs, highlighting that the comprehensive approach, in which students more deeply reflect on the content and a perception of having competencies, was associated with improved academic performance. Therefore, the author emphasized the importance of professors encouraging students to adopt a more reflexive and active role in their learning processes.

García-Perez et al. (2020) conducted a study with students from psychology and sport sciences programs to investigate their decisions concerning learning strategies. Based on a qualitative approach, the authors identified that students adopted strategies mainly during the period of tests. Furthermore, some students always used the same strategies, while others changed strategies according to the content or the format of tests; students with worse performances reported more difficulties using strategies.

In the accounting field, Morozini et al. (2007) aimed to identify the factors that influence or hinder the learning-teaching process from the perspective of 208 students. They identified that the teaching methodology adopted by professors might facilitate the students' learning, and depending on the method, students may even feel more motivated. In this sense, they highlighted the importance of students participating in their learning process.

Considering the students' characteristics and intending to analyze self-regulated learning strategies, Lima Filho et al. (2015) addressed 249 undergraduate Accountancy students and verified that younger female students presented higher levels of self-regulated learning. Based on these results, the authors stressed the importance of learning strategies, considering the need to pay greater attention to students with low levels of self-regulation.

Castro et al. (2016) sought to analyze the relationship between learning strategies and motivation to learn on a sample of 480 undergraduate students attending the Accountancy program of a Brazilian public university. The authors identified a positive association between intrinsic motivation and the use of strategies and between extrinsic motivation and no strategies. This finding shows that the way students conduct their learning is related to their motivation. In a similar study, Daciê and Anzilago (2019) investigated 106 students attending the same program from another institution and verified a positive relationship between intrinsic motivation and in-depth learning strategies.

By conducting a specific analysis of a procedure adopted in cognitive strategies, Vasconcelos and Araújo (2017) investigated the benefits of using conceptual maps in the learning-teaching process. Using a qualitative study, they analyzed the adoption of maps in two courses in the accounting field, addressing 48 students. Among the results, maps stand out, contributing to the development of social and communication skills, the establishment of interdisciplinary connections, and students' autonomy.

Hall et al. (2004) redesigned the structure of an introductory course in the accounting program by including innovating teaching methodologies to assess changes in the students' learning strategies, which were collected using the SPQ (superficial and in-depth). At the end of the intervention, students intensified the use of in-depth learning strategies (reading, seeking connections, and integrating new concepts with previous knowledge) and decreased the use of more superficial strategies.

In line with the previously mentioned study, Ballantine et al. (2008) conducted a longitudinal study during a school year with students from the accounting and business programs of an Irish university to analyze the effect of the method in the use of learning strategies. The authors used the ASSIST, which identifies three learning approaches: in-depth, superficial, and strategic. The findings show that the application of active methodology encouraged students to seek and reinforce in-depth (relating new to previous concepts) and strategic (organizing the study and managing the time available) strategies.

Finally, Silva and Biavatti (2018) analyzed the relationship between students' self-regulated learning profiles, teaching methods, and professors' perceptions of learning. They investigated 202 students and 16 professors from an Accountancy program. The students used metacognitive strategies, which increased as they advanced in the program; the professors reported understanding regarding the methods that contribute to the students' learning and metacognitive skills, even though these were not the most frequently used methods. Additionally, the different teaching methods may have contributed to more frequent use of strategies.

3. Method

3.1 Study design

This study's main objective is to identify what learning strategies newcomer students in an undergraduate Accountancy program adopt and their perceptions. The secondary objective is to verify how professors influence the choice of these learning strategies from students' perspectives. This is a descriptive study with a predominantly qualitative approach. According to Cervo and Bervian (1996, p. 66), "descriptive research observes, analyzes, and correlates facts or phenomena (variables) without manipulating them." These authors state that descriptive studies "seek to discover, with possible prediction, how frequently a phenomenon occurs, its relationship and connection with others, nature, and characteristics."

This study's target population comprises newcomers to the Accounting Science program of a Higher Education Institution located in Minas Gerais, Brazil. It consists of approximately 160 students enrolled in the full-time and evening shifts, attending the 1st and 2nd terms of 2019. Note that admission in this HEI is through its selective process twice a year or through the High School National Exam (ENEM). Eighty slots are available per semester in the full-time and evening shifts.

The HEI selected for this study has an Accounting Sciences program that includes professors working with teaching, research, and extension activities, specifically in the *Programa de Educação Tutorial (PET)* [Tutorial Education Program], in the Master of Business Administration (MBA), and Empresa Junior [Junior Company] (Contábile) and graduate programs (Master's and doctorate). Furthermore, in this institution, this study's authors, together with PET, offered workshops on the use of learning strategies to train newcomers. In addition to these characteristics, note that newcomers were chosen because higher education is the beginning of a new educational cycle that demands learning strategies in which students are responsible for their learning process (Waterkemper & Prado, 2011).

3.2 Data Collection

Data were collected during the workshops called "How do students learn? Learning Strategies in the Teaching-Learning Process" provided to Accounting Sciences undergraduate students attending the 1st and 2nd terms of 2019. The PET offers these workshops in the institution previously mentioned, and professors and students from the Accounting Sciences program provide the training.

The workshops' objective is to present the main learning strategies students can adopt to perform better in the learning process. Hence, practical activities are provided with the application of learning strategies, in which the students play an active role. Note that before the start of the workshop, the professor responsible provided clarification regarding the study to the students, explaining the objective and information concerning the free and informed consent form so they could decide whether they wanted to participate in the study.

Data were collected during the workshops after presenting the main learning strategies. To achieve this study's objective of identifying whether newcomers from the Accountancy program adopt learning strategies, a questionnaire was applied in the first stage of the data collection to identify the strategies students used. The form used was composed of two blocks: the first block addressed the participants' characterization and demographic information such as sex, age, shift, and professional experience, and the second block was intended to identify the students' behavior regarding the use of learning strategies, i.e., the instrument proposed by Boruchovitch et al. (2006) was used.

The instrument developed by Boruchovitch et al. (2006) comprises 20 statements, six concern cognitive strategies, six concern metacognitive strategies, and eight refer to a lack of learning strategies. The students were asked to assign a score from 0 (Never) to 10 (Always) (decimal values could be used) to each statement, considering how strongly they agreed or disagreed with the statements. Hence, the total sum for each construct is 60, 60, and 80 points at most for cognitive, metacognitive, and lack of strategies, respectively. Note that all students attending the workshop participated, completing the instruments used in this study.

To complement the understanding of the results obtained through the questionnaires, in the second stage of the data collection, the students were asked to provide a written report including the strategies they adopt in their learning processes and consider helpful to overcome their main learning obstacles.

To verify the influence of professors on the choice of these strategies, the students were asked to report how professors can help them adopt learning strategies within the school environment. Again, they were ensured that their identities would be kept confidential.

Focus groups (collective interviews) were held with volunteers at the end of the workshops to deepen understanding of the topic under the study. According to Caplan (1990), focus groups can be defined as small groups intended to assess concepts or identify problems. Additionally, Vaughn, Schumm, and Sinagub (1996) use this methodology in studies in the educational field, reporting that it is possible to deepen knowledge of needs using this methodology.

In total, four focus groups were held, two in the first term and two in the second term of 2019, totaling 26 students. The focus groups were mediated by the professor teaching the workshop with the support of graduate students. Focus groups lasted 16 minutes and 18 seconds on average. A mobile phone was used to record the groups, and the reports were later transcribed. The reports were identified by the letter "P" (participant) followed by a sequential number, P1, P2, P3, …, and P26, to preserve the students' identities.

3.3 Study Participants and Data Analysis Procedures

Descriptive analysis was used to treat the responses provided to the questionnaires, and the mean scores the students assigned to the groups of learning strategies (cognitive, metacognitive, and lack of strategies) were obtained. The participants were 132 students who agreed to fill out the questionnaire.

Regarding the focus groups, the first workshop was held in the first term of 2019 and included 15 students, 6 from class A (full-time shift) and 9 from class B (evening shift). The participants from the first term from the full-time shift are referred to as A1P1, A1P2, and so forth. The students from the evening shift are referred to as B1P1, B1P2, and so forth. Eleven students participated in the second workshop held in the second term of 2019: 7 were from the full-time shift and 4 from the evening shift, referred to as A2P1, A2P2…, while those from the evening shift were referred to as B2P1, B2P2, and so forth.

To analyze the reports obtained through the focus groups, a word cloud was initially organized using IRAMUTEQ, software free of charge to analyze qualitative data, to identify how frequently the students mentioned words. Only "adjectives", "nouns", and "verbs" were used as active keywords.

Additionally, content analysis was adopted and included four stages: (i) organization of analysis; (ii) coding; (iii) categorization; and (iv) inferences. According to Bardin (1977), content analysis, which comprises these four stages, uses analysis techniques to find the content of messages using (quantitative or not) indicators that enable relating the conditions of production/reception of messages.

Two categories of analysis were adopted in the qualitative analysis: (i) Learning and Teaching Strategies and (ii) The role of Professors in the Choice of Strategies. These categories were used to analyze the focus groups and the written reports and were based on previous studies, such as Oliveira et al. (2009) and Souza (2010).

4. Analysis of Results

4.1 Descriptive Analysis

During the workshops, a questionnaire was applied to identify the students' characteristics, such as sex, age, shift, and professional experience.

Table 2
Participants' characteristics

Sex		**Shift**	
Female	46.97%	Full time	52.27%
Male	53.03%	Evening	47.73%
Age		**Paid job**	
Up to 19	61.36%	No	55.30%
From 20 to 22	24.24%	Yes, but not in the field	40.91%
From 23 to 25	6.82%	Not reported	3.79%
+ 25 years old	7.58%		

Source: study's data.

According to Table 2, more than half (53.03%) of the respondents were male students, most (61.36%) aged up to 19, while the minority (7.58%) was aged over 25. The shift with the highest number of students enrolled full-time, 55.30% of whom did not work.

Additionally, the questionnaire also enabled identifying the learning strategies the students most frequently identify with and use. The analysis of the types of strategies is presented in Table 3. The total number of each type was considered, ranging from 0 to 60 for cognitive and metacognitive strategies and 0 to 80 for lack of strategies.

Table 3
Learning Strategies

Strategies	Mean	Median	Mode	Minimum	Maximum
Cognitive	31.17	32.00	32.00	0.00	56.00
Metacognitive	50.11	50.00	52.00	33.00	60.00
Absent	39.71	40.00	50.00	4.00	80.00

Source: study's data

Considering the proportion of the total values for each strategy, the figures presented in Table 3 show a predominance of metacognitive strategies. Ribeiro (2003) notes that metacognition consists of recognizing one's knowledge, verifying how one knows and learns. Data show that, on average, the students perceive the importance of the learning process, even though not all the students use the strategies the same way. This result is in line with the findings reported by Lima et al. (2015), who identified that accounting students more frequently used self-assessment, external help, and environment strategies related to metacognition.

Regarding cognitive strategies, note that these enable achieving learning objectives (Ribeiro, 2003), directed to task performance (Souza, 2010). Note that the students used these strategies, as the mean (31.17) was slightly above half of the total value possible (60); a similar result was found for the median (32). However, some students do not adopt any cognitive strategy, as the minimum value found was 0.0.

A lack of strategies is explained by negative behaviors that influence learning strategies, such as, for instance, not adopting any strategy or lack of regulation, as Boruchovitch et al. (2006) note. The mean result for the non-adoption of strategies was 39.71. This is proportionally the lowest mean when compared to the results of the metacognition and cognition groups. Previous evidence (Castro et al., 2016) indicates that external pressure, characteristic of extrinsic motivation, may favor the non-adoption of strategies. In this sense, the relevance of students keeping intrinsic motivation during the undergraduate program is highlighted.

4.2 Qualitative Analysis

4.2.1 Focus Group

The initial analysis of the reports obtained in the focus groups resulted in a word cloud. This word cloud showed the words the students repeated most frequently. As the methodology proposes, adjectives, nouns, and verbs were considered. The cloud is presented in Figure 1.

Analyzing the general frequency, 539 active words mentioned 1,859 times were identified. The words in the center of the word cloud (Figure 1), highlighted by the font size, were the most frequently used during the focus groups. Therefore, the words "professor" (39 mentions), "to think" (33 mentions), and "to study" (32 mentions) were the most frequently used in the students' reports during the interviews, respectively representing 2.1%, 1.78%, and 1.72% of the general frequency.

To understand the meaning of the most frequently repeated words ("professor", "to think," and "study") and confirm the context in which they were adopted, a sub-analysis was performed. Hence, the varied use of the word "professor" is associated with the fact that students believe that professors, with their experience and practice, can significantly influence the students' academic performance. In turn, the verb "to think" was more frequently used to expose opinions regarding learning strategies that were debated and exposed. As for the verb "to study," the students were aware that a good performance depends on a sound and organized study process.

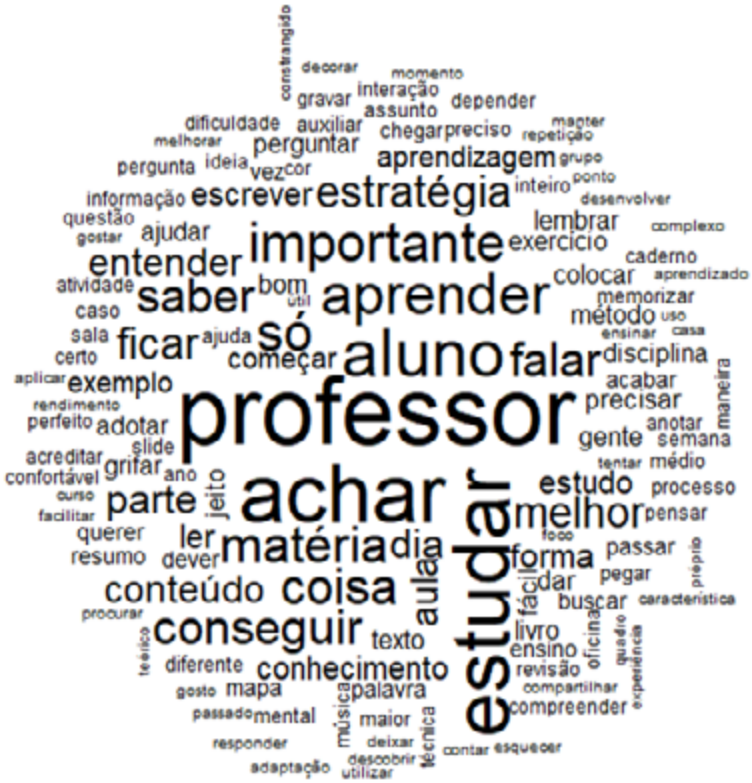

Figure 1. Word Cloud concerning the focus groups' interviews

Source: Study's data.

In addition to the word cloud, some excerpts from the students' reports provided during the focus group are also presented. Initially, we highlight the excerpts that concern the **learning strategies and teaching** category.

> I do mind maps, but mainly I focus on the review part. **I always do mind maps because it is the easiest way to give emphasis**; it's a cycle… if I study today, I have to study and review tomorrow, and then, a week later, seven days later, again, and finally, in 30 days. So, I'll never forget. **The review, I guess that is what remains.** If you only see it once, you may recall one thing or another later on, **but if you keep seeing it, you'll absorb it 100%** (A1P2).

> When a person is free the entire day, she'll certainly find a more intensified form of studying. Adapting the time you have with the need to study interferes with the strategies we adopt. Me, I work and study, so I end up **making a summary and highlighting the parts I find essential.** For me, these are much easier to do because of the little time I have available (B1P4).

> I guess that **studying individually** is very important. Many people like group study and I understand that it is best to **share ideas** because some people are good in one subject and others are good in other subjects. Only that, when I study by myself, I manage to **understand what my difficulty is**, see what I have to **focus** on, and I think it is very important (A2P4).

Learning strategies represent a vital step for the students' learning processes, considering that, as noted by Boruchovitch (1999), learning strategies can prevent learning difficulties. The previous reports show that the students use learning strategies to improve acquired knowledge and memorize it over time. The adoption of strategies also enables students to absorb the most from teaching and optimize time, which in many cases, is restricted.

Still, regarding strategies, one of the students' excerpts regarding mind maps stands out. This report corroborates the findings reported by Vasconcelos and Araújo (2017), who noted the importance of maps to establish connections. In turn, the second report shows that strategies may vary depending on the student's conditions. In this regard, García-Perez et al. (2020) report that some aspects may affect the decision of which strategies to adopt. Additionally, there is a report concerning the importance of understanding one's difficulties, an action characteristic of metacognitive strategies, which can boost learning, according to Oliveira et al. (2009).

Note that the students perceive the **important role professors play in the selection of strategies**, as the following excerpts show:

> The professor has already studied that subject. So, in his learning process, he also developed **techniques that can be shared with the students**, contributing to their learning. [...] For instance, when I start studying a given subject, which I'm not familiar with, I'll have difficulties at first. So, the professor can provide some **guidance on what aspects are important to achieve greater/better performance**. So, his **experience** with that content will facilitate the process (A1P4).

> The strategies a professor uses, whether he **follows a book** as a guide, or **only writes on the blackboard**, or uses **a PowerPoint presentation**, each person learns differently. So, **if he diversifies the strategy, he may reach several students** (A2P1).

> I guess that, if professors ask for **seminars**, regardless of whether the subject is theoretical or less conceptual, presenting a seminar demands all techniques because it is not only about putting a text on a PowerPoint presentation, you have to **put on a topic and explain it**. Thus, it helps a lot in the learning process (A1P1).

Morozini et al. (2007) state that students are influenced by professors, considering that professors studied intensively and for a long time the content they teach in classes, so they know the subject, and it comforts students. In this study, the students reported that professors should teach their classes less complexly, providing more examples of their experiences and diversifying their teaching strategies. Thus, these reports suggest that the methods adopted by professors can somehow influence the students' use of strategies. Hence, depending on a professor's strategy, s/he may reach all types of students, such as those who more easily learn theory or prefer more practical tasks.

Other studies also report the influence of professors, such as Monteiro et al. (2005) and Souza (2010), who suggest that professors can encourage students to reflect and be more active in their learning process. Additionally, Silva and Biavatti (2018) suggest that a variety of teaching methods adopted by professors can broaden the students' use of self-regulated learning strategies.

4.2.2 Analysis of Reports

Still considering data from the qualitative analysis, as mentioned in the methods section, during the workshops held in the two terms of 2019, the participants were asked to report their opinions on the learning strategies they had been adopted in their learning process, and which they considered helpful to overcome learning obstacles. In addition, they were asked to report how professors can help to adopt learning strategies in the school environment.

The data extracted from the two workshops held in the first term of 2019 refer to the reports of 70 students, 37 from class A and 33 from class B. Sixty-six students participated in the other two workshops held in the second term of 2019: 33 in class A and 33 in class B. Note that all the participants agreed with the use of their reports in this study.

A word cloud resulted from the material extracted from the reports and facilitated visualizing the words most frequently used by the students. This word cloud (Figure 2) contains "adjectives", "nouns", and "verbs", which were used as active keywords.

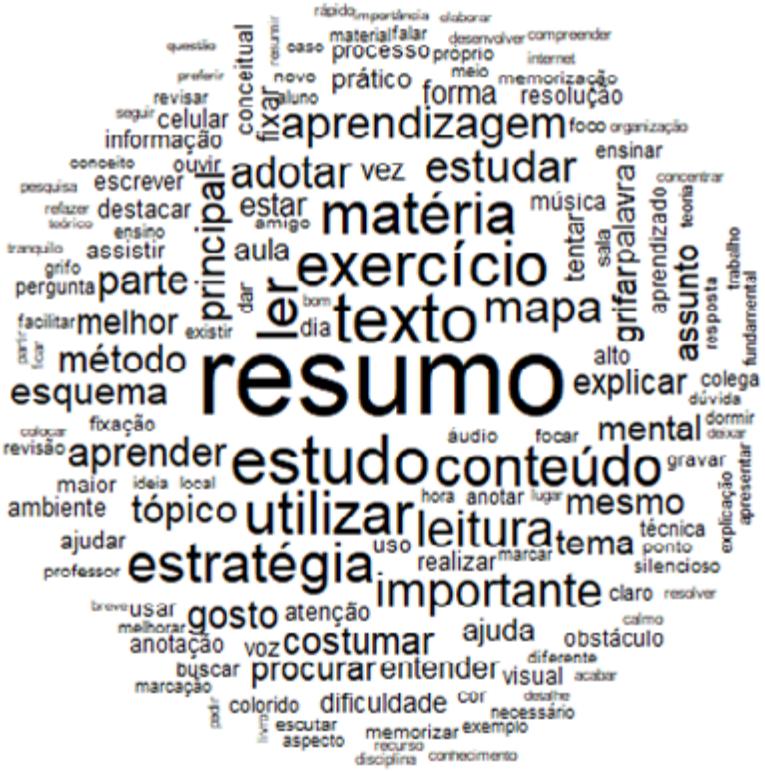

Figure 2. Word cloud of the reports

Source: study's data.

The general frequency identified 594 active words written 2,177 times. The words in the center of the word cloud (Figure 2) and highlighted by the font size are used most frequently in the reports. The words "summary" (66 mentions), "text" (38 mentions), and "study" (37 mentions) were the most frequent and represent 3.03%, 1.75%, and 1.70% o the general frequency, respectively.

A sub-analysis was performed to understand the meanings of the most frequently repeated words ("summary", "text", and "study"). Hence, the frequent use of the word "summary" is linked to the fact that the students frequently adopted this learning strategy and believed that summaries and mind maps help consolidate and understand the content. Likewise, the word "text" reinforces that a good way to achieve good results also depends on reading texts and extracting the main content. Finally, the word "study" emerges to intensify all the methods adopted in each student's study.

Some excerpts from the students' reports, related to the **learning and teaching strategies**, are presented.

> I usually summarize content in my learning process, but I do **quick summaries divided into topics with very few notes**. I like **using colored pens and changing the letter size and shape** [...] (B1P3).

> I generally make **schemes with parts I highlighted from the text**. When the content is more complex, I watch **video classes**. **Working on exercise lists or explaining them to a classmate** helps me to consolidate learning (A1P9).

> **Reading, seeking to identify keywords and key statements in the text**. Then, I read it again, only this time, **I ask and answer questions.** Next, **I try to explain the content I studied to someone** (A1P35).

Castro et al. (2016) consider that students seek learning strategies to obtain more consistent knowledge. As reported, the students seek means they identify to help them in the learning process, simplifying content and facilitating understanding, promoting better results, and reinforcing what Souza (2010) suggested.

The reports also reveal the students' perception regarding the **influence of professors on their choice of strategies.**

> Adopting **different audiovisual strategies**. **Listening to the students** about ways and better alternatives each student chooses to study (A1P36).

> The professors can be **more dynamic** during classes, leaving the conventional structure and adopting **measures that stimulate the class**, such as case studies (**linking content with real-world situations**) (A1P31).

> [...] it would help to more frequently explore the **exercises** related to the subject, solve them during classes more frequently (A1P25).

> One alternative would be to **re-discuss ideas from studies** that improved a student's performance, or **activities that can help overcome the difficulties** a student may be facing (B2P9).

> **Individually helping** with students' difficulties, **helping them to devise strategies to improve learning** (B2P6).

According to the reports, professors should always obtain updated knowledge to teach their classes. There are currently numerous channels and technologies focused on the teaching-learning process, which promote greater interactivity between students and professors. These reports reinforce the importance of professors constantly receiving training and updating their knowledge to keep up and support students with content and studying strategies.

Immediately after the statements addressing learning strategies at the end of the questionnaire, the respondents had to provide a written answer to an additional question on the main distractions they had to deal with at the time of studying. The most frequent answers regarding distractions that may harm studying included the use of the Internet, social networks, mobile phones, and electronic devices in general.

Note that in addition to the scale addressing learning strategies, there was also a question on distractions to identify whether the students listened to music, watched TV, and/or accessed the Internet while studying or doing homework. The mean score the students assigned was 4.5 out of a maximum of 10. This mean was considered low considering the easy access and availability of music, TV, and Internet in people's routines. On the other hand, some students assigned the maximum score (10); these students frequently access electronic media.

When considering some students' written responses, social networks emerged as a reason for procrastination. Mateus and Brito (2011) show that students connected to the Internet tend to disperse during classes, whether they access social networks or communicate with others at inappropriate times. Hence, it is not surprising that research indicates that mobile phones are the most distracting when studying, together with social networks and the Internet, all of which are interconnected.

Excessively connecting with the Internet makes students postpone their studies, potentially influencing their academic performance. Araújo, Santos, and Alves (2019) note that the inappropriate use of mobile phones during classes or when working on academic tasks is directly linked to the students' academic performance. Lack of focus, companions, external noise, and tiredness distract some students, but nothing compares to mobile phones.

In summary, students resort to learning strategies to support their studies, whether by taking notes, reading, or solving exercises. Additionally, the role of professors is to support students to use strategies and improve their learning. However, one has to pay attention to distractions that may harm their performance, such as mobile phones, which can hinder the learning process, instead of promoting it.

5. Final Considerations

This study's objective was to verify whether college students entering an Accounting Sciences program adopted learning strategies and their perceptions regarding the role of professors in the choice of these strategies. Hence, four classes of students attending a public university completed a questionnaire addressing the use of learning strategies (cognitive and metacognitive) and their lack. The students also wrote reports, and some participated in focus groups answering questions regarding the use of strategies.

Overall, considering the groups of learning strategies analyzed, the students most frequently adopt metacognitive strategies, which consist of being aware of one's knowledge and how one learns (Ribeiro, 2003). Hence, the students generally perceived and recognized the importance of the learning process, and many adopted learning strategies. Some students did not adopt any strategy to support learning though. In addition, it is worth noting the report of some students who reported distractions associated with mobile phones, the Internet, among others, which hinder their studies.

The students' strategies include tools such as mind maps, summaries, reviews, and sharing ideas, among others. Boruchovitch (1999) noted that these tools are part of the learning process and are intended to prevent learning difficulties. Additionally, this study's reports show that professors play a vital role in the students' choice of learning strategies. Students noted that professors have experience with the content taught and can share techniques for students to improve their studying and performance. These findings corroborate previous studies (Ballantine, Duff & Larres, 2008; Hall et al., 2004; Morozini et al., 2007; Oliveira et al., 2009; Silva & Biavatti; 2018) that report the influence of professors in the students' behaviors.

Regarding the professors, the importance of diversifying the teaching methodologies during classes became apparent. This procedure can contribute to the students' learning process and heed varied learning styles, encouraging the use of different strategies. The professors can also work with the program's coordinators to promote institutional activities to present potential learning strategies.

This study contributes to understanding how students newly enrolled in the Accountancy program recognize, adopt, and put learning strategies into practice. The results show that most participants adopted strategies during high school, which is considered a positive aspect. It is important to monitor students during the undergraduate program though, considering that previous evidence reveals (Silva & Biavatti, 2018; Castro et al., 2016) that factors such as the program's term and even motivation may affect the use of these learning strategies.

Therefore, even though the findings of this study obtained from newcomers were similar to the results of previous studies with senior students, especially those addressing accounting programs, higher education requires students to deal with more demands and personal challenges, such as the beginning of professional life. In this sense, we highlight the reports of some students noting that having a paid job while attending college may affect one's learning strategies. It indicates that when students enter college, they need to be prepared to reconcile various other activities with studies. It also reinforces the importance of professors preparing to help students seek strategies to get the most from learning.

As for delimitations, this study addressed the students of the Accountancy program from a single institution, and regarding limitations, it was conducted at a single point in time, in a public institution. Additionally, the focus groups included fewer participants, considering that adherence was voluntary. Therefore, future studies are suggested to include other public and private teaching institutions, verify why students do not implement learning strategies or even investigate the same population addressed in this study, though at the end of the program. The maturity acquired throughout the program, student-student or professor-student interactions, and/or environment may impact the adoption of strategies among these students.

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