Innovation in the Classroom - A Student Perspective

Inovação em Sala de Aula - Uma Perspectiva Discente

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Abstract

Innovation is a necessity for organizations that want to remain competitive and in higher education institutions this is no different. The students' need to grasp the knowledge in the classroom contrasts with the inadequacy of traditional teaching methods. With this, the innovation in the classroom emerges as an aid to the teacher to transmit the content in an effective way. As innovation implies a result, it is necessary to determine the concept that students have about innovation in the classroom, focusing efforts to meet the needs identified by the students. Thus, this research has a qualitative and exploratory character and seeks, from semi-structured interviews, to develop the concept of innovation in the classroom, in the student perspective. The answers are in line with the theory; indicate dissatisfaction with passive learning, a search for greater interaction and participation in the teaching-learning process, besides involving technological resources.

Keywords: Innovation. Education. Higher Education. Accounting.

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Resumo

A inovação é uma necessidade para as organizações que querem permanecer competitivas e nas instituições de ensino superior isso não é diferente. A necessidade dos alunos de apreender o conhecimento em sala de aula contrasta com a insuficiência dos métodos tradicionais de ensino. Com isso, a inovação em sala de aula desponta como auxílio para o professor transmitir o conteúdo de maneira efetiva. Como na inovação subentende-se um resultado, é necessário determinar o conceito que os alunos têm sobre inovação em sala de aula, direcionando-se esforços para satisfazer as necessidades identificadas pelos alunos. Assim, essa pesquisa tem um caráter qualitativo e exploratório e busca, a partir de entrevistas semiestruturadas, desenvolver o conceito de inovação na sala de aula, na perspectiva discente. As respostas estão alinhadas com a teoria, indicam um descontentamento com a aprendizagem passiva, uma busca por maior interação e participação no processo ensino-aprendizagem, além de envolverem recursos tecnológicos.

Palavras-chave: Inovação. Educação. Ensino Superior. Contabilidade.

1 Introduction

Innovation is a complex and systemic process that is at the heart of today's knowledge-based economy (Lundvall, 1992; Organization for Economic Cooperation and Development [OECD]; Financier of Studies and Projects [FINEP], 2004), and is present in many areas and segments of society and of undeniable importance for economic and social development (Schumpeter, 1942). Numerous researches present the evolution of the theme and reflect this importance and diversity, as Fagerberg (2004) and Godin (2010). Despite the wide range of studies and sectors, innovation theories and policies are primarily focused on the business sector (Lekhi, 2007). In this sense, in the literature reviews carried out by Fagerberg, Fosaas and Sapprasert (2012) and Martin (2012), for example, as well as in the evolutionary analyzes of innovation research by Fagerberg and Verspagen (2009) and Fagerberg, Martin and Andersen (2013), innovation in higher education is little mentioned. Thus, there is a need for further exploration of this field (Pereira, Franco, Almeida, & Santos, 2012).

Higher education institutions need to promote conditions for their students to develop and to be prepared for an active role in society (Santos, 2000). In this sense, innovations in education could enhance learning outcomes, allowing students to achieve better performance and development by modifying the teaching process (OECD, 2014).

Barroso (2005) considers that there are two types of innovations: one involving teachers and another involving political power and its central administration. On the other hand, the Measuring Innovation in Education: A New Perspective report from the Organization for Economic Cooperation and Development (OECD) separates innovations as related to the classroom or school as a whole (OECD, 2014). This article will focus on the common ground between the two works cited: the innovation practices within the classroom, which are within the reach of the teacher.

This article seeks to answer the following question: From the student perspective, what is innovation in the classroom? Thus, the purpose of the article is to analyze what innovation means for undergraduate students. For this, semi-structured interviews will be conducted with Accounting students from the Federal University of Rio Grande do Sul - UFRGS, in order to identify the concept of innovation in the classroom, from the perspective of the student.

This research is structured with this introduction, followed by section 2, which will address the concepts and relationships between innovation and higher education. Section 3 presents the methodological procedures and section 4 presents the analysis of the results. Finally, section 5 presents the final considerations.

2 Innovation and College

Definitions of innovation vary for different contexts and disciplines, but a widely accepted definition is the one in the OECD glossary, where innovation involves the "implementation of a new product (good or service) or process, a new marketing method or a new organizational method in business practices, work organization or external relations" (OECD, 2005, p.1). However, research on innovation in higher education has used the term "innovation" without a clear definition and usually addresses the university's adaptation to changes in the environment (Cai, 2017). In addition, some studies (Clark, 1998; Slaughter & Rhoades, 2004) deal with innovation without explicitly using the term. In turn, Audy (2017, p.76), speaking of innovation in education, defines it as "the effective, successful (added value) implementation of new ideas in a given context". On the other hand, Lašáková, Bajzíková, & Dedze (2017) highlight that one of the barriers to innovation in higher education involves a negative attitude towards innovation and lack of interest from teachers. In this sense, Watty, McKay, & Ngo (2016) highlight that innovations in higher education are usually led by

individuals and reinforce that most accounting teachers have restrictions on innovation, either due to lack of interest, high workload, preference for traditional methods, or lack of institution support.

Innovations in higher education involve various aspects such as mission, strategy and university management, but also policies, organizational structure, curriculum, teaching and learning (Cai, 2017). Although innovations do not necessarily achieve a positive outcome (Martín, Potočnik, & Fras, 2017), research suggests that the innovation process results in several benefits, including an increase in psychological well-being (Bunce & West, 1997; De Jong, 2007). Bowman (2010) emphasizes that this well-being is essential for the achievement of learning objectives, as well as to ensure the student's adequate adaptation to the university.

The OECD report - "Measuring Innovation in Education: A New Perspective" - presents twelve innovation practices, divided into two perspectives: Classroom Practices and School Practices (OECD, 2014). These practices are presented in Table 1. The report uses quantitative data to measure innovation in schools rather than in higher education, but since the topics discussed deal with education, they are adequate for the purposes of this article.

Table 1
Innovation Practices

Classroom Practices	School Practices
Innovation in teaching style	Innovation in providing special education
Innovation in instructional practices	Innovation in extending teacher collaboration
Innovation in class organization	Innovation in feedback mechanisms
Innovation in the use of textbooks	Innovation in evaluation and hiring in schools
Innovation in the assessment methods used	Innovation in school external relations
Innovation in the availability of computers and internet in the classroom	
Innovation in the use of computers in classrooms	

Source: Adapted from Organization for Economic Cooperation and Development. (2014). Measuring Innovation in Education: A New Perspective. *Educational Research and Innovation*, OECD Publishing. doi: 10.1787/9789264215696-en

As the research objective encompasses only innovations within the classroom, of the 12 ways presented, only 7 were used. Thus, School Practices were not taken into consideration for this article. Table 2 presents the dimensions used in this study, followed by the description in the OECD report (2014).

Table 2
Descriptions of Innovation Forms

Innovation Forms	Description
1) Innovation in teaching style	Incorporate the use of front-of-class teaching, such as classroom lectures, reading aloud, or demonstrating scientific experiments. The aim of innovation with regard to increasing the use of class-ahead education could be, for example, to ensure that the basic principles are explained for the whole class, while a reduction may occur as a result of introducing a more inclusive approach individualized for classroom teaching. Innovation can also take the form of independent work. An increase in self-employment may reflect a move towards greater autonomy, while a decrease may indicate a shift toward more direct teacher guidance.
2) Innovation in instructional practices	Incorporate change as students apply their knowledge and skills to their real life or to activities such as data interpretation or reasoning. The goal of such innovation may be to encourage engagement and motivation by making classes more salient or by encouraging the student's critical thinking skills. A reduction in these practices may occur if teachers explore innovative alternatives or seek to spend time in different activities.
3) Innovation in class organization	Innovation in the classroom can also be seen through different ways of organizing the class for different instructional purposes. Teachers can innovate by adapting the class

	organization to the subject and type of content they are delivering. The teacher can also give students more or less autonomy through self-directed work or provide students with individualized instruction. The goal of increasing such instructional practices could be, for example, to facilitate collaborative learning among students, or to meet specific educational needs, while a decrease may reflect the desire to reduce as students come together and move around classroom or to increase the time they learn directly from the teacher.
4) Innovation in the use of textbooks	Classroom innovation can also incorporate different approaches to the use of textbooks as instructional material. Teachers may choose to make more or less use of textbooks as a basis for instruction or as complementary tools. The goal of innovation in textbook use could be, for example, to align classroom curriculum with standards through stricter or more lenient adherence to textbook content, while reduced use of textbooks reflects an intention to introduce alternative sources, such as open educational resources, or to advocate for more active pedagogies.
5) Innovation in the assessment methods used	Classroom innovation can include a change in the methods teachers use to evaluate students over time. Teachers can innovate by administering different types of tests as well as evaluating students through their daily activities and deliverables. The goal of innovation in this regard could be, for example, to change the type of assessment to better monitor student performance or to better meet student needs and to identify possible solutions to improve their learning outcomes.
6) Innovation in the availability of computers and internet in the classroom	Innovation in the classroom can take the form of providing students with access to computers and the internet. Schools may choose to invest in more computer and networking equipment in their classroom to be used as a tool for instruction in class, or they may reduce classroom computer use, possibly in favor of using technology in other ways or collect information and communication technologies (ICT) together in dedicated tasks. The goal of innovation with regard to increasing the availability of computers and the Internet could be, for example, to make students familiar with ICT use and to facilitate the pedagogical use of technology in classrooms.
7) Innovation in the use of computers in classrooms	Classroom innovation includes different possibilities for using computers during classroom instruction on all subjects. Teachers may choose to integrate their instruction, with a broader or narrower use of computers to serve different purposes. The purpose of computer innovation can be, for example, for students to develop an appropriate set of digital skills and to make students more aware of the usefulness of computers for their learning. A reduction in ICT use in the classroom may result from innovations such as the decision to provide computers for the home, or a preference for providing experience through real rather than virtual objects and experiments.

Source: Adapted from Organization for Economic Cooperation and Development. (2014). Measuring Innovation in Education: A New Perspective. *Educational Research and Innovation*, OECD Publishing. doi: 10.1787/9789264215696-en

The concepts in Table 2 have been used as a guideline for researching articles dealing with innovation in higher education, so that the articles presented below address at least one of the seven points of the OECD report. Later, in the analysis phase, the interviewees' statements were confronted with the articles of this literature review.

Fernandes, Silva, Ravena, Martins and Gomes (2017) conducted a questionnaire study on the constituent elements of the satisfaction of business and accounting students. Among the thirteen variables studied were the pedagogical teaching practices used by teachers, forms of content assessment, practical applicability of subjects, which correspond to some points of the OECD report. The authors concluded that, although not the main determinants, these variables contributed to student satisfaction.

Gupta, Parekh, and Ganjiwale (2017) studied students' perceptions of innovative teaching practices with regard to interest, concept clarity, and learning enhancement. Of the ten practices used, three were best ranked by students in terms of learning improvement. 1) An activity where students discussed and presented different subjects divided into small groups, with the teacher as assistant; 2) An activity where students lived a daily situation of the profession; and 3) A response model that provided feedback on the assessments and guidance on what to write, common mistakes, and the importance of the assessment.

Another element commonly associated with classroom innovation is mobile learning, which, according to Sánchez-Prieto, Olmos-Migueláñez and García-Peñalvo (2017), is a tool that centralizes student learning, developing skills through active learning. . In addition, the authors, from an application of an adapted TAM model, conclude that the master students analyzed in the study, potential teachers, are open to the use of mobile learning as a teaching tool. Still, on technology and active methods, Lewis, Fretwell, Ryan and Parham (2013) state that a move towards interactive learning in higher education is needed to engage the current generation of students, who use technology resources intensively.

3 Method

To fulfill the research question and the proposed objectives, this article uses a qualitative-exploratory approach. Thus, semi-structured interviews were conducted with 11 students from the Accounting Sciences course at UFRGS, which lasted between 4 and 11 minutes. The questions asked to students sought to identify the concept of innovation in the classroom. It was decided to interview only students in the last three semesters (6th, 7th and 8th), since they have already been through most of the course and, therefore, are able to elaborate a better answer than students with little experience in undergraduate, practice already adopted by Fernandes et al. (2017). All students gave permission to record the interview and were informed that they would not be identified in the present study.

Before beginning the questions related to the central theme of the study, students were asked demographic data such as gender, age and semester, in order to characterize the sample used. After that, the proposed question was precisely the research question of this article: "For you, what is innovation in the classroom"? From the answers, examples of practices that they considered innovative were solicited and, in the end, a space was devoted to allowing students to speak freely about the topic of innovation in the classroom, adding any information that seemed important to them. The interviews were transcribed and later analyzed in the Nvivo Pro 11 software. When any answer is reproduced in this article, the code "EXX" will be used, being XX an integer between 01 and 11, in order to identify the interviewee.

4 Results Analysis

It is possible to notice that most students are in the age group of 20-24 years (6 students), are male (6 students) and are attending the seventh semester (Table 3).

Table 3
Number of students by age group, gender and semester

Variable	Category	Amount
Age group	20 - 24	6
	25 - 29	3
	30 - 34	1
	35 - 39	0
	≥ 40	1
	Total	**11**
Gender	Masc	6
	Fem	5
	Total	11
Semester	6º	2
	7º	8
	8º	1
	Total	**11**

From the content analysis of the interviews, it is possible to notice two most recurring topics in the answers: student participation and the use of technologies. Six students, half of the respondents, cited both. Other observations raised were also distance education (4 students), the use of games (4 students), more practical classes (4 students) and class organization (2 students). Taking into account the seven fields of innovation in the OECD report, it is noted that methods for evaluating and using textbooks were not mentioned in the responses. The first point may just not be considered as a possible source of innovation for students, or because they are satisfied with current assessment methods. The second point may be related to the current availability of information on the Internet or even the lack of interest in reading practice.

Regarding the form of teaching style innovation, the answers were directly linked to the initial interview question "For you, what is classroom innovation?" and are reproduced in Table 4.

Table 4
Initial answers to the research question

Interviewee	Inicial Answer
E01	"Make the student understand without using those classic resources of writing on the board, only the teacher talking. I think **there has to be some student interaction**."
E02	"It's a bigger relationship between the students, leaving that thing, that monologue that only the teacher speaks and the student listens to. I think a **better interaction with the teacher** would be nice. "
E03	"It's using different methods to entertain the student in the classroom"
E04	"It's the teacher trying to answer in a way that the students understand. It would be **the teacher seeking greater understanding of the students** and not only passing the knowledge and not having this feedback, what the student is understanding or not "
E05	"The teacher offers a class that runs away from slide patterns, to follow in the book"
E06	"Any activity other than that simple lecture"
E07	"New methods of teaching, looking for **different things beyond that class, the teacher talking and the students listening**"
E08	"Using technologies, not only new, but old, but use in a more structured way, aiming to have a better teaching result. No need to throw the chalk and the board away as long as you know how to integrate things. "
E09	"It is not necessary to reinvent the way of teaching but to add **technological advantages** to the old way"
E10	"Use other forms than the traditional one, which would be the lecture, the teacher talking and the students writing something down. It's trying to give more **interactivity**"
E11	"It's looking for new methods of passing knowledge, not just slide. You have to have this creativity of how to make learning cool, not just a written thing. It's cool to have a more **participatory** class, not just the conventional one "

In general, it can be seen that the initial answers involve a desire for greater interaction on the part of students and dissatisfaction with traditional lecture classes. This fact is directly in line with that raised by Lewis et al. (2013), when they state that a movement towards interactive learning is necessary. From the initial answers cited above, students were urged to further develop their response and to cite practices they believe to be innovative in the classroom. Some answers continued to reinforce student participation in the classroom such as E06: "I prefer until students explain, other than this teacher-only talking class" and E07: "I think it's cool to take students too that they understand that subject a little and divide it into smaller groups. Sometimes people in smaller groups express their doubts the most. "

A concern present in the respondents' answers involved the practical application of the contents seen in class. For example, E03 stated: "I think everything is very theoretical. Innovative here would be this issue of bringing people who work in practice with such a subject to show students, while E04 expressed concern: "I see a huge difference from what is in the [accounting] office day to day with things you see in college. There are things that I learned in

my daily life that they never told me in college, so I guess sometimes I lack practice. This concern of respondents finds support in Fernandes et al. (2017), who identified the practical applicability of content as important for student satisfaction with the course.

Regarding the organization of the room, only two respondents cited this as an innovation. E02 highlighted as potentially innovative a change "in the way the classroom is doing. I think a different display, got it? That everyone could talk better and the teacher interact better with the students. I think that would be a huge innovation." This opinion was corroborated by E05: "in a little while, the way we sit in the classroom, you know? One behind the other. In a little while I will make the class more dynamic in this sense."

The use of technology is also often cited in the answers. Interviewee E05 highlighted the use of the smartphone by a teacher in class: "she has a lot of interaction with the students through the cell phone [...] she used the cell phone and the students used little signs that had those encrypted codes [QR Code], then the people would lift the signs and she would take a picture with her cell phone, and the cell phone would count each other's answers without her having to correct the proof". This highlight goes with Sánchez-Prieto et al. (2017) on the use of mobile learning as innovation in the classroom. Quoting the same teacher, the interviewee E10 highlighted the use of video conferencing: "a class that should be in person, she did video conferencing [...] people turned on their webcams, who wanted to be seen and could talk or participate in chat, had a much larger participation than when in the classroom." Still, some students emphasized the use of games in learning, for example E04: "for us to study for the exam, we had to play and challenge our peers. I thought it was really cool because I managed to learn very well from the game. Everything I couldn't learn by reading, I learned by playing" and two students E07 and E08 cited Gamification as an interesting learning method.

Student responses also involved distance education (ODL) as an innovation in higher education. For example, the interviewee E05 stated that "many chairs [subjects] we have could very easily be ODL", while E10 said that distance learning is innovative because "it allows us to better organize time [...] this question is legal if the class is synchronous, you can participate in it other than in college ". In addition, the virtual learning environment used by UFRGS was quoted by E08: "The virtual classroom itself, where we can do certain exercises without being tied to a certain place, that helps a lot" and also by E09: "there is no innovation more present in our academic life than Moodle."

An important fact, which follows the one highlighted by Watty et al. (2016), about innovation being usually pulled by individuals, is that half of respondents, when citing examples of innovative classroom practices, named the same teacher. The activities mentioned involved the use of mobile applications, poster activities, video conferencing classes, video making, game use and crossword puzzles.

At the end of the interviews, students were able to add something they thought was important. These final contributions involved lack of innovation in class (E04), careful use of technologies for everyone to access (E08), acceptance of innovations (E09), importance of innovation for development (E10) and accounting (E11).

Finally, it is noted that students' perceptions of classroom innovation generally follow what is identified in the literature. Of the forms of innovation identified in the OECD report (2014), only assessment methods and the use of textbooks were not answered by students, while all other points were cited in some way. From the answers, it is also possible to perceive the positive view of students regarding innovation.

5   Final Considerations

This research aimed to explore the concept of innovation in the classroom, from the perspective of students of Accounting Sciences at UFRGS. Students were interviewed and their

answers analyzed in the Nvivo Pro 11 software. As a guide for coding responses, we used the report on innovation in education: The OECD New Perspective (2014) and the seven ways it innovation presents in the classroom.

It was clear that students' concept of innovation in education is broadly aligned with the divisions of the OECD report. Innovation in teaching style can be directly related to the manifestations for greater student participation and discontent with the lecture only. Innovation in instructional practices finds support in manifestations for content more related to the practice of accounting professionals. Innovation in class organization has also been cited by students who believe that a different arrangement of students in the classroom is innovative. Two points, however, were not mentioned by the students: the assessment methods and the use of textbooks. Finally, the availability of computers and use of computers in the classroom were cited by students when they gave examples of some practices they consider innovative. Despite this student identification, teachers often rely on university funding to provide specific activities, and are often constrained by available physical facilities and infrastructure.

The limitations of this article are the small number of students interviewed. A larger sample would allow a more robust elaboration of the concept of innovation understood by the students. Also, it is noteworthy that only students from the Accounting Sciences course at UFRGS were interviewed. Therefore, something that is considered innovation for this sample may not be for another. Thus, it is suggested to apply this exploration of the concept in other higher education institutions, in order to allow a comparison of the concepts of different students from different institutions.

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