CONTABILIDADE E EDUCAÇÃO 5.0

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Abstract

The use of technology in accounting education has been very reductive. The resource of professional software to support education is reductive and used only to support the execution of academic accounting registration. Accounting higher education schools have to assume a more innovative role in teaching methodologies. Generation 5.0 lacks a new shift in the use of technologies in teaching. Pedagogies and technologies should meet to continue the humanization in education through virtual environments to support the teaching/learning processes. This paper presents the case of a workshop proposed to students of a public accounting course. The workshop was based on simulation and combined information systems with role-playing pedagogy. This study is quantitative and based on a survey sent to students. The purpose was to gather their opinion regarding the workshop: content, simulation use, teamwork, role-playing, problem-solving and the format used. Results showed students are more engaged in their self-learning when working in environments where: "a controlled" stress is present, different students work together and problems are based on real situations. This work aims to contribute to teaching public accounting in the 5.0 era, focusing on students; linking pedagogy, technology and the humanization of values and education.

Introduction

In teaching and learning contexts role-play can be seen as an interaction between play, games, simulations and workshops and the students that perform the activities proposed with a learning outcome. With the use of role-play, teachers encourage students to participate in activities inherent to the content being taught. The use of active methods allows students to practice the knowledge acquired in activities similar to reality, allowing them to develop their knowledge applied to the practice.

More and more professors in higher education are requested to use innovative methodologies to motivate and engage students in their path of learning. The focus in education tends to be the development of new skills such as creativity and critical thinking, considered key skills for students to be able to deal with uncertain realities.
This study aims to understand how students perceived the use of active methods as a way to reinforce, in their teaching and learning process, the combination of active methods such as role-play and simulation supported by information systems. The study analyses the students' motivation, attendance and performance in traditional classes and classes supported by active methods.

The use of technology in accounting and management education has been very reductive. Several studies point to the use of professional software only as a support for the execution of academic accounting registration exercises, and in isolation. Accounting and management higher education schools have to assume a more innovative role in the use of technologies in teaching. Generation 5.0 needs a new turn in the use of technologies in education.

In the academic year 2021/2022, the teaching of the Public Accounting course combined active methods. The traditional method was complemented with a workshop where students used simulation and role-play to perform a set of activities. The main goal was to understand students' perceptions regarding their learning path while working in teams, with real documents, software and problems to solve in a short period. The practical application of the knowledge acquired during the theoretical classes was the main objective of this workshop.

Literature review

Education 4.0 considers the Cloud Computing industry and its basis in ubiquitous digitalization, as well as the use of integrated operating systems and media and technology, such as applications for mobile phones, (...) including email, information storage, file sharing, collaborative tools, digital communication and other services (...) (Giglio et al. 2019, p. 200). Higher education institutions must adopt a new stance towards 5.0 era technology in order to meet the expectations of the snowflake generation and prepare their graduates for an increasingly demanding and digital labour market.
Active learning processes are certainly a major challenge for educators and trainers, who intend to develop, manage and promote learning in different educational settings. Presiding over facilitation processes means being able to

create, set up, organize, and develop situations in which people are motivated to learn to acquire knowledge, skills, and competencies that foster professional and personal development.

The theme of active learning involves activity of reflection, discussion, and sharing of theoretical approaches, which support education and training professionals in making an informed choice and questioning several assumptions concerning learning and teaching (Owens, 2020). Many academics and teachers are incorporating active learning into traditionally lecture-based classrooms. Active learning is known to increase student learning, improve student retention, especially for those who are underrepresented in accounting, and lead to several affective benefits such as improved engagement and interest, e.g. (Annansingh, 2019), (Jill, 2019).

The criteria that guided the choice of methods are related to aspects of context, learning objects, different types of learning, as well as logistical aspects that have a direct bearing on the choices. Making an effort to classify the methods used in the different contexts, we could propose a first distinction highlighting some practical and distinctive dimensions for the development and growth of people and organizations. (Hernández-de-Menéndez, 2019), (Neelam, 2020)

Discussion methods are quite widespread in educational settings and are characterized by two major dimensions, the relational and the more technical-operational. (Johnson, 2018)

The first calls into question relational, power management, and group management and coordination skills in different educational and training contexts. The second concerns the knowledge and use of techniques and tools which facilitate discussion and foster its development. Think for example of activities such as the circle of voices, chalk talk, questioning, snowballing, conversational roles and many others (Johnson, 2018). In this case, facilitation has its centering in fostering connections, exchanges, relationships, and the management and adherence to rules set that allow for the active participation of all involved. (Molinillo, 2018)

Group work is itself a method, a way through which learning processes are promoted in different educational contexts, by the methods and techniques that facilitate the processes of animation, collaboration and cooperative learning. One could also speak in this sense of approaches or modes of group work (Deslauriers, 2019) determined by contexts and participants. These are methods that invoke the concept of learning as experience sharing, collaboration, involvement and other variables that from time to time must be considered to facilitate group work processes. Working in pairs, in triads, in groups of 5/8 people, cooperative learning (Theobald, 2020) with children and teenagers, teams and work teams are just some of the examples of this method. Among the most popular ones, we can mention here brainstorming, target plan, analogue games, online group work, case analysis, and many others that educators and trainers have developed creatively and in the field over the years (Schleutker, 2019).

Experiential and active learning methods and strategies (Hartikainen, 2019) (McCoy, 2018): this family of methods promotes reflective and experiential learning, considering experience as a value for personal and professional development and growth (Bastos S. M., 2021) and using tools that facilitate reflection such as, for example, journals, reflective journals, portfolios, personal development plans (PDPs) and reflective writing [(Amora-Polo, 2019) (Thomas, 2020)]. Reflection, as a methodological device, allows for valuing experience (Chen, 2018) retracing the process and reviewing the premises that generated the experience and its consequences (Lorbach, 2019).

This dimension of enhancing the experience and generating reflective processes also includes those methods called interactive methods (Caggiano, 2020) characterized by the active involvement of the learner. Active learning is one of the most studied and discussed theoretical paradigms by the scientific communities of educators and learning process management professionals (Durk, 2020).

The fundamental factors of interactive methods are mainly the involvement of the learner, continuous invitation to interaction and continuous comparison, feedback and assessment with and within the group. Among the promoted activities that help generate interaction and involvement, we can belt out some such as one-minute paper, think, pair and share, formative quizzes, computer-based interaction systems and concept maps (Bastos S. M.-L., 2021).

Alongside these that represent the most widely used methods, we can highlight some such as simulations and workshops (Kioupi, 2022), (Fisher, 2019) that are based on real or simulated situations aimed at recreating real contexts where people can demonstrate, experiment concretely and operationally. It is a matter here of setting up processes in which the method is embedded in the context where it takes place. Facilitation in this case is characterized by techniques and methods such as the business game, case analysis, problem-based learning, role-play, performance-based learning and many others.

The appeal to laboratory situations does not only concern training contexts and programs that are more oriented toward a work-related dimension (Borte, 2020) (Ghilay, 2015). They also concern educational contexts dedicated to the growth of girls and boys, from kindergarten to preschool and elementary school. Facilitating learning processes with children means setting up contexts that encourage their sensory and intellectual development by offering them opportunities for socialization and cultural growth starting from an interactionist conception that looks at child development and socialization processes as interactive processes in which the child is recognized as having an active role in the relationship with the adult (Robertson, 2018). Laboratory methods inspired by the experiences of new schools and practical pedagogy workshops - with due readjustments of social and cultural-historical matrix - have this objective. The educator plays the role of director in them in order to encourage processes of exploration, manipulation, creation and expression, research and experimentation.

In the educational sphere, methods promoting intercultural education aimed at valuing diversity and heterogeneity as a resource within learning processes also deserve mention. Among them, cooperative learning can be mentioned again (Chan, 2015). Complex instruction is also based on proposing techniques of cooperation and collaboration in groups, to foster a sense of democracy and overcoming status-related dynamics (Bosio, 2020). The goal of these methods is the promotion of socialization processes and the "diffusion" of levers supporting diversity education within the educational and social settings and strategies that the educator-director can enhance in this direction.

We can then mention the creative and art-based methods, in which the aesthetic dimension represents the resource from which to draw to set up learning situations. Painting, drawing, creating art objects, using images, famous paintings, expressing oneself through different forms of language such as metaphor, theatre, sculpture, music, dance, poetry and more, become the tool that conveys and generates learning under the guidance of an experienced facilitator. Associating images with words, creating sculptures with the body, staging a theatrical performance, composing a story or poem involve bringing into play different actions and strategies that lead to deeper learning. (Sewagegn, 2019), (Murillo-Zamorano, 2021). Art-based methods make it possible to give voice to ideas, feelings, and beliefs that would otherwise have been more difficult to express and bring to light.

Using role-play as an active learning method brings advantages to engaging students in their path of learning, such as 1. encourages students to create their reality; 2. develops the ability to interact with other people; 3. increases students' motivation; 4. engages shy/introvert students in class activities; 5. makes students self-confident; 6. helps students to identify and correct misunderstandings; 7. is agreeable and fun; 8. shows students that the real world is complex and that problems that arise cannot be solved by simply memorizing information; 9. underlines the simultaneous use of different skills (acquired separately) (Craciun, 2010).

Method

This paper presents the case of a workshop proposed to students in the last academic year of an accounting and administration course. Of a population of 220 students, 95 attended (80,5%). We used active methods through the combination of simulation, work group, problem solving and role-play.

The workshop format had a single goal: to apply the theoretical contents provided during classes. Using the experience of Simulation course, the researcher created a set of activities and presented them in a script. The creation of the activities took into account the public accounting classes and their content. The lessons that most students attended, and all supporting materials, such as PowerPoint presentations, exercises, and so on, were available to all students. When the workshop took place 2/3 of the classes had already occurred. The technological tool used was integrated accounting software (in use in public entities in accounting departments). The students who participated in the workshop were already using similar integrated accounting software, but for private organizations, whereas the software used in the workshop was for public entities and companies, and was new and more complex software.

The quantitative methodology was the chosen one for the study. We have created a questionnaire, using Google Forms, only for the workshop evaluation. At the end of the workshop, we asked students to evaluate it by responding to the questionnaire.

The survey was sent to students who participated in the workshop - 95 - to gather their opinion regarding the workshop: content, simulation, teamwork, role-play, problem-solving and also the format. The response rate was 62%.

A descriptive study was carried out. The sample is non-probabilistic and consists of 220 higher education students from Porto Polytechnic School, in particular 104 students from sectorial accounting and 116 from public accounting. The total of students are engaged in the last academic year of their graduation in Accounting and Administration, and those two subjects are optional (students can choose).
The data collection tool was a survey conducted on the 95 students who participated in the workshop. The survey has 15 questions, where 6 with a "yes" or "No" scale of response, 8 with "Not important", "Important", "Really Important" as scale of response. The last question was open-ended and aimed to collect comments and suggestions from the students.

Findings
Data analysis showed that 88% of the students liked the workshop and considered important the contents addressed in the activities proposed. Regarding the duration of the workshop, only 62,7% of them agreed with the duration (hour and a half) of the workshop. In the open question, we found remarks related to this question, some students suggested that "time should be longer" and "we should have more workshops alongside the traditional classes along the semester". They consider that practical workshops throughout the semester would facilitate the understanding of theoretical contents (98,3%).

Concerning the structure and organization of the workshop the majority of the students consider that the work was well conducted (76, 3%), while 93,2% answered positively to the script and adequacy of the activities proposed. When asked about "would you attend another workshop on the same format" 91,4% of them responded affirmatively.

Table 1. What your participation in the workshop worthy?

Question	Yes
Did you like the workshop	88%
The duration was adequate	62,7%
The contents were important for you	89,8%
The way the work was conducted was the most appropriate	76,3%
Would you like to participate in other workshops in the field of public accounting	93,2%
Do you consider that practical workshops throughout the semester would facilitate the understanding of theoretical content	98,3%
The script and the tasks proposed were appropriate	93,2%
Would you attend another workshop in the same format?	91,4%

The designed activities to perform during the workshop took as basis the theoretical contents given with the combination of the real practice in a public organization. The activities were constructed and divided into themes: expenditure and revenue budget; accounting entries in the budgetary accounting; analysis of the budget performance and reflection on real documents (provided by local public entities).

Table 2. Groups of activities promoted at the workshop

Question	I and RI

Analysis of the expenditure and revenue budget	32%; 65,5%
Accounting entries in the budgetary accounts	27%; 69%
Analysis of budget performance	27,6%; 65,5%
Reflection about documents sent by the National Directorate-General for the Budget was: I = important; RI = really important	29%; 67,2%

The students enrolled in the workshop were grouped randomly into teams of 3. The 90-minute duration of the workshop is designed to be the same as the format used in the Management Simulation Project course, and in which the students are used to work, in order to achieve the objectives set for the workshop.

The format used, similar to Management Simulation course (all students attended this subject in the previous semester and are attending it in the second semester): three students per "company", here a public company. Students have a script with several activities to do. The activities, which we call tasks, are composed of a brief description and a set of documents. The documents were created based on documents provided by local public entities, in order to give greater adherence to reality to the tasks to be carried out by the students. The set of activities launched for the workshop was grouped into execution tasks, analysis and resolution tasks and reflection tasks.

Structure of the workshop: 15 minutes to explain the script; 45 minutes to do the activities (students with the support of two teachers); 20 minutes to discuss students' solutions and analysis of the accounting documentation created by them. And the last 10 minutes are to present the students with the correct solution.

After the workshop all documentation was displayed on Moodle platform of the university so that all students had access to the accounting information produced during the workshop. After 15 days, a seminar was held on the themes worked on by the students in the workshop. This seminar had the participation of an expert in the field of public accounting, particularly in budget reporting. The goal was to discuss with students the difficulties felt by public accountants when reporting the information to the government. Of the 95 students who participated in the workshop only 48 attended this seminar (50.5%). We expected a greater adhesion by the students, however, the timing was not the best, since they were already in a period of continuous assessment exams.

Results, Conclusions and Recommendations

The findings allowed us to conclude that students want to learn with active methods where they are called to do, to prepare information by themselves, to solve difficult situations addressed to real-life situations. They are more engaged in their self-learning when working in environments where: "a controlled" stress is present, different students work together, problems are based on real situations, time management is essential, technologies applied to public accounting are real (not just for education), role-playing is constantly used, which obliges them to react immediately to provide solutions. This study contributes to public accounting education, during a post pandemic period, showing the demand and alignment of the students with active methods.

The implementation of active instructional strategies requires changes in teacher's logic within the classroom environment. Active learning demands teachers to establish the goals to be achieved. Secondly, they must plan the class activities in order to encourage students to pursue the necessary knowledge to achieve the goals (Konopa, 2015).

As main conclusion we can refer that the real challenge is to change teachers' mindset and the organizational structure at universities allowing teachers to do different activities outside the curricula and the rigid schedule of the subjects. The availability of adequate tools and classes to develop this kind of activity where active methods are used is another negative point to stand out. Nevertheless, students enrollment in this activity was the highlight of this experience: a workshop to maintain and replicate in the next semester. We proposed to the coordinator to replicate this activity every three weeks, for 3 hours, during the semestre.

This is a study that only has application in our country and at our school due to the organizational course curricula.

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