



Academic innovation to strengthen public accounting programs in Colombia

Innovación académica para el fortalecimiento de los programas de Contaduría Pública en Colombia

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ABSTRACT

Academic innovation is a broad and vital topic to guarantee future professionals' learning quality. The research presented here describes critical aspects of intellectual innovation in higher education institutions. This study aimed to identify aspects of educational innovation related to the accounting area. The methodology was descriptive and a critical literature review; bibliographic sources and relevant academic documents were reviewed to obtain a complete and updated view of the subject. The results indicate that educational innovation in the accounting area involves the implementation of new teaching methodologies, such as problem-based learning. These active and practical approaches help students develop a deeper and more applied understanding of accounting to prepare them better for the challenges of the professional world. It was concluded that there is a need for further exploration of the topic, and it offers elements to consider in future studies.

Keywords: accounting, educational innovation, pedagogical innovation.

JEL classification: I20, I25, M41

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RESUMEN

La innovación académica es un tema amplio e importante para garantizar la calidad del aprendizaje de los futuros profesionales. En la investigación que se presenta se describen aspectos claves de la innovación académica en las instituciones de Educación Superior. El propósito de este estudio fue identificar los aspectos de la innovación educativa relacionadas con el área contable. La metodología fue descriptiva y de revisión crítica de la literatura; se revisaron fuentes bibliográficas y documentos académicos relevantes con el fin de obtener una visión completa y actualizada sobre el tema. Los resultados indican que la innovación académica en el área contable involucra la implementación de nuevas metodologías de enseñanza, como el aprendizaje basado en problemas. Estos enfoques activos y prácticos ayudan a los estudiantes a desarrollar una comprensión más profunda y aplicada de la contabilidad, en aras de una mejor preparación para los desafíos del mundo profesional. Se concluyó la necesidad de continuar la profundización en la temática y se ofrecen elementos a considerar en futuros estudios.

Palabras clave: contabilidad, innovación educacional, innovación pedagógica.

Clasificación JEL: I20, I25, M41

INTRODUCTION

The current state of Higher Education is marked by the emergence of new technologies, the expiration of traditional knowledge and professional practices, as well as a complex competition to maintain academic relevance in the different models of linkage (Hernández & Murillo, 2020; Hofer et al., 2021; Kolade et al., 2022; Miotto et al., 2020). In this scenario, university institutions need to almost constantly review their academic programs, curriculum improvement processes, as well as the tools that are employed to achieve better preparation of their faculty and students (Broo et al., 2022; Jackson, 2019; Mishra et al., 2020; Wu & Liu, 2021).



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Thus, it becomes vital that such organizations can find ways to refine their substantive processes with available resources while generating new approaches, knowledge, and technologies to continue their development (Bygstad et al., 2022; Iglesias-Pradas et al., 2021; Sailer et al., 2021). Therefore, teaching, research, and the extension of university knowledge to society and industry require a constant effort from educational and social agents to achieve the levels of performance demanded by each of the parties, support entrepreneurship and social development (Anjum et al., 2021; Krishnamurthy, 2020; Lee et al., 2022; Müller & Mildemberger, 2021).

Thus, it is essential that universities achieve internal movements that, supported by critical pedagogy, allow the development of practices, technological devices, new uses for existing technology, and methodologies for teaching new advances. This approach requires not only a transfer of knowledge in the traditional sense of education but also the production of novel knowledge that goes beyond the direct application of what is known (Backfisch et al., 2021; Kwangmuang et al., 2021; Miranda et al., 2021; Stoller, 2021).

In this regard, accounting sciences have not been exempt from these demands; they have needed constant updating processes and a multidisciplinary approach and more committed to dialogue with other areas of knowledge (Appio & Eugénio, 2022; Sangster et al., 2020). This dialogue has taken place in two fundamental directions: the first inward, as accounting has needed to be updated according to new technologies and their applications; the second outward, as accounting has needed new methodologies to prepare its professionals for the application of its principles in different professional fields.

In both cases, accounting education has required the revision of its principles, programs, teaching methods and approach to professional problems, and career development of its future professionals (Aulia, 2020). In addition, in recent years there has been a greater awareness of the importance of financial education in the general population, as well as at different organizational levels and sectors (Gallego et al., 2022; Goyal & Kumar, 2021; Razen et al., 2021; Urban et al., 2020). This has generated a greater openness of accounting to different sectors that traditionally depended on specialists, as well as provoked constant demands for training and accessible accounting education for communities and social groups that present difficulties in accessing education and financial inclusion (Geng & He, 2021; Morgan & Long, 2020; Nkoa & Song, 2020; Tay et al., 2022).

In view of the previous arguments, this paper aims to analyze aspects of academic innovation in the accounting area in Higher Education in Latin America, especially in Colombia, through a literature review. Therefore, the purpose of this research was to describe the essential aspects of academic innovation in the learning of the public accounting career in universities in Colombia; for this purpose, national and international references were reviewed.

Literature Review

Below are some references and ideas regarding the main categories that were analyzed. The purpose of this section and phase of the study was to build a platform to improve the understanding of the international referents studied. The author took this decision as a result of the identification of key differences between the conditions of the context under study and the contexts alluded to in the sources of the first literature review.

Role of Higher Education Institutions (HEIs) in accounting education

According to Argañaraz et al. (2017), HEIs' fundamental role is to promote the realization of activities towards learning, teaching, and research. Therefore, they are a determining factor for the development of a country's society and economy. In other words, universities, in addition to being epicenters of training, become catalysts for development.

The role of universities in this framework encompasses several areas of a society's daily life, according to the fundamental role of HEIs is to train ethical and suitable professionals in accordance with the new technologies and challenges of today's world (Aguilar et al., 2021; Hernández & Murillo, 2020). Rodríguez et al. (2022) define that educational quality is an important factor for universities, which is why they have the duty to improve their quality processes in all their activities and academic degrees offered by the institution. This is an important role for HEIs since their educational quality not only refers to the processes they provide to their students but also to the community and other social agents.

Ospina (2022) states that the role of Public Accounting careers in HEIs is to update their curricula and pedagogical practices of their academic human talent, providing future accounting professionals with competent responsibilities, in addition to contributing to their own internal management (Vale et al., 2022). Soria et al. (2020),

who analyze the role of educational institutions in academic innovation, comment that the innovation that has been presented is through qualified personnel, i.e., university teachers are the ones who are mainly in charge of helping to develop academic innovation through their professional capabilities and the inclusion of the student body.

On the other hand, Durán (2015) mentions that, in reference to the academic role in the accounting area, universities must guide and communicate their academic processes through accounting procedures and standards governed in the country, international standards, and the chart of accounts. This highlights the importance of linking the accounting, administrative, and teaching departments in the management and development of accounting models within the organization (Vale et al., 2022).

According to Fajardo et al. (2021), critical hermeneutics helps the teacher's role in critical theory in tax education. Moreover, this epistemological position helps to transform and develop academic practices, values, and institutional projection. In turn, Díaz (et al., 2012) describe the role of teaching, fundamental for the paradigm of the new university, in its search for mass access, quality, and permanent guarantees in education. In the case of accounting education, this trend towards the improvement of teaching has been contrasted in multiple studies, which, in addition to the teaching staff, have focused on the main accounting disciplines, curriculum transformation, and technological integration (Apostolou et al., 2020).

According to Iglesias and Iglesias (2016), regarding the accounting teaching paradigm, they focus on how teachers have implemented innovative assessment practices in the business area. Some of these innovative work practices are “practical problem-solving workshops and case analysis, systematized in conjunction with traditional individual forms of assessment such as written lessons, class performances and development of research guides” (p. 169). From this background, it stands out that, in order to develop competencies and qualities in their area of study, autonomous student learning is necessary.

One of the problems for student motivation is traditional teaching, such as the use of sheets of paper for the development of activities, so Cassiani & Zabaleta (2017) point to the need for a methodological change, according to the advancement of society and the exploitation of computer tools, such as Excel and accounting software. The intention should be to incorporate educational resources that facilitate learning and, in turn, develop technological capabilities for the labor market. López (2019) expresses that the teacher and the student, in the interrelationship of education, cannot remain stagnant in traditional teaching but must adapt to the environment in which they develop and always be aware of social needs, which are an expression of the challenges of today's world.

Educational innovation as a critical and developmental process in accounting education

Innovation drives changes in the environment and one of its main strengths is the implementation and development of technology in the educational sector, which stimulates new inventions, methods, and pedagogical techniques. In this regard, Perez and Avalos (2018) describe the importance of mastering the necessary knowledge of how the financial data management mechanism operates in electronic accounting, its procedures, functions, and scope. According to these authors, it facilitates the preparation and ability to face problems in work practice and cope with constant evolution.

Electronic accounting is of crucial relevance to society as a whole, as it addresses legal standards whose non-compliance by taxpayers leads to administrative hassles and financial penalties, among other damages. Therefore, the use of accounting networks, systems, or software is inevitable in labor practice, and the capital importance of including accounting-systematic subjects and training teachers and students in the extension of that knowledge (Lee, 2017).

Vidal et al. (2022) point out that teaching innovation and the use of Information and Communication Technologies (ICT) in Higher Education occur fundamentally due to society's need for educational access. In this way, it is necessary to change current teaching methodologies by using technologies in teachers and students; an important method of educational innovation is the “revolutionary”, which involves the application of a new paradigm, revealing changes in teaching processes and established practices.

On the other hand, González (2020) indicates that for the application of educational innovation, didactic and collective changes are necessary based on the competitive capabilities and knowledge of the teacher so that transformations are linked to academic research for being the vehicle to promote innovative potential. Therefore, Zavala et al. (2022) refer to the fact that educational innovation responds effectively and efficiently to the needs of the educational area, something that implies changes and transformations in teachers' practices, as well as in the appropriate means to teach lessons to students.

An essential aspect is pointed out by Palacios et al. (2020), who warn that the implementation of educational innovations is a slow process, but it is very important in the quality of the institution's operation. Therefore, if we aspire to impact the country's socioeconomic development and increase equity and educational quality, the role of Higher Education must be that of a source of innovation from its teaching processes.

Finally, the postulates of Ríos and Ruiz (2020) are analyzed, who indicate that educational innovation provides a solution to a problem that affects the quality of learning. They also mention trends in educational innovation in Latin America, including: the use of educational videos, technological networks between teachers and students, technological innovation schools, comprehensive education of the personality through the use of ICTs, education against poverty through the use of radio, among others.

METHODOLOGY

Approach

The research was based on the qualitative approach to address the categories under study, specifically on a literature review design and the intention of achieving a critical synthesis of the essential elements (Amsrud et al., 2019; Zapata et al., 2021). The hermeneutic approach and the analysis of diverse data sources, including relevant articles and documents, were used as an alternative for dialogue in the face of positivist, post-positivist, and technocratic positions and a better trans-paradigmatic understanding (Sackstein et al., 2023; van der Wath & van Wyk, 2020).

Design

The research process began with an exhaustive review of related theoretical sources, for which the analytical summary technique was applied in order to extract the key points. A first round of documentary analysis focused on specific words, such as "accounting education", "educational innovation", "education in Colombia", "accounting education". Subsequently, a similar search was carried out in English, prioritizing the sources indexed in Scopus, Wiley, and Taylor and Francis.

This procedure allowed the creation of two databases, the first one smaller than the second one. From the analytical summaries, the sources were separated according to the description or analysis conducted so that the first procedure favored the creation of an archive of key concepts, while the second oriented the analysis towards dialogue and synthesis (van der Wath & van Wyk, 2020).

The selected articles were published in the period from 2016-2022 and addressed the topic of academic innovation and accounting learning. In total, 15 academic papers were used as the basis for the development of this research. This design allowed obtaining a solid and grounded understanding of the state of academic innovation in public accounting learning in Latin America, especially in Colombia, through analytical synthesis and comparison with international sources.

Limitations of the study

No distinction was made between sources according to the type of study or approach, nor was a quality evaluation system established, which may favor better systematization of the data (Page et al., 2021), but this was not a specific objective of the study. Instead, the description, analysis, and discussion were conditioned by the study's purpose and the author's needs as a researcher in distinguishing the main lines of research and synthesis. In addition, a simple strategy for saturation assessment was employed, which consisted of constant comparison between analytical summaries to determine saturation according to categories (Hennink & Kaiser, 2022).

RESULTS AND DISCUSSION

The analysis of the 15 documents focused on the aspects of academic innovation in the accounting area within the context of Higher Education is presented. These documents were carefully selected due to their relevance and significant contributions to the field of study. In the analysis of the sources, several trends and approaches related to educational innovation in the training of accounting professionals were identified. These studies provide a better understanding of how innovative educational practices positively impact the training of future public accountants, preparing them to face the challenges of today's working world. In addition, they contribute to the advancement and continuous improvement of accounting education so that its extension is based on.

Table 1.
Analysis of academic innovation in the accounting area

N°	Article	Author	Work objective	Analysis
1	Research, development and innovation in higher education in Ecuador.	Soria <i>et al.</i> , (2020).	Analyze the development of higher education in Ecuador.	The role of knowledge in today's society; that knowledge is the developer of aspects such as technology, society and economy.
2	Quality education in university institutions in Ibagué, with respect to the Public Accounting career.	Rodríguez <i>et al.</i> , (2022).	Perception of the educational quality of the public accounting program.	Higher education institutions are the trainers of future professionals, so they must be willing to receive educational innovations for the dispersion of academic knowledge. Both the social and ethical roles that universities promote are important for the academic environment.
3	Challenges and Curricular Innovation in Public Accounting in Colombia.	Díaz (2019).	Reflection on the innovation challenges facing the accounting industry.	Educational innovation in universities should be agreed upon and qualified together with the academic core so that there is commitment and participation of the parties.
4	The importance of electronic accounting in the curriculum.	Lee (2017).	The need to implement electronic accounting in the public accounting curriculum.	The academic mesh or curriculum; the application of a subject on electronic accounting; the technological aspect in education, in order to improve the training processes of the future professional of Public Accounting, proposing a technological step in the academic training and the satisfaction of the need of today's world.
5	Pedagogical strategies supported by ICT: proposal for accounting education.	Gómez & Bonilla (2020).	Identifies educational strategies using ICT.	The technological aspect as a process of educational innovation where technology helps the experience and is an academic update for both students and teachers; they identify that the technological tools must be updated hand in hand with the pedagogical aspects dictated.
6	Virtual Reality as a tool for educational innovation.	Toala <i>et al.</i> (2022).	Examines virtual reality as a tool to drive educational innovation.	Some aspects that have generated changes in learning are: innovation, research, technology, and advances, whereby ICT offers the possibility of education for those students who wish to be trained through the contents taught with ICT tools since this allows new pedagogical models in education.
7	Evaluative innovation and the change of paradigm in accounting education.	Iglesias & Iglesias (2016).	Analyzes the evaluation system used in the accounting course in the business area and its impact on students' academic performance.	The lack of innovative pedagogy on the part of teachers in the accounting area can lead to academic demotivation of students, which is reflected in their academic performance. Some of these innovative learning strategies mentioned in the research are: problem-based learning, case analysis, business fairs; all of these strategies are positively received by the students.
8	Educational innovation in the development of relevant learning: a systematic literature review.	Palacios <i>et al.</i> (2020).	Analyze the connection between educational innovation and learning development.	Throughout time, institutions have applied innovation in their educational processes through which it has been generated: pedagogical practices, academic strategies and didactics, and training methodologies. In line with the dynamics that have been generated in society and in the globalized world.

9	Analysis of the possibilities of using Big Data in the professional practice of Public Accounting in Colombia.	Quintero <i>et al.</i> (2022).	Explore the opportunities for the use of Big Data in organizations and in the accounting field.	Emphasizes the need to make educational changes in institutions to adapt to the 4.0 revolution and take advantage of technological advances, such as Big Data, which have impacted both the labor and academic worlds. The Public Accounting program in Colombia guarantees a high-quality education and complies with the required legal standards, but it is still necessary to integrate new technological trends into the curriculum.
10	Gamification as an educational tool: the accounting student in the role of manager, accountant and auditor.	González-Acosta <i>et al.</i> (2020).	Proposes the use of gamification in the classroom with accounting students, confronting them with a business situation.	Gamification seeks to achieve educational objectives that foster attitudes and skills in students, aligned with competency-based models, through didactics that involve challenges and representations. Gamification” is defined as a strategy that goes beyond entertainment and focuses on the use of games to achieve educational objectives with the use of playful tools. This strategy could be valuable in the context of accounting education by motivating students and encouraging more interactive and participatory learning.
11	Gamification in educational contexts: analysis of application in a distance public accounting program.	Gómez (2020).	Seeks to address the gap by applying educational gamification in the accounting program.	The benefits of gamification as an effective pedagogical tool to enhance students’ learning experience. By promoting participation and interaction, gamification can increase student engagement and motivation, which, in turn, could have a positive impact on their academic performance and attitudes towards learning.
12	Gaming and financial accounting.	Santos & Tornel (2020).	Analyzes the use of gamification and the Kahoot application in teaching.	The effectiveness of the Kahoot application as a gamification tool in the accounting classroom; the use of this tool positively impacts student motivation, which translates into increased interest in the subject; the application can be an effective option to improve student engagement and performance in the context of accounting education.
13	Methodologies used in teaching international accounting: a proposal.	Cassiani & Zabaleta (2017).	Analysis of accounting education and IFRS for SMEs.	The importance of higher education institutions to focus on improving and implementing new strategies to motivate students to appropriate international standards in the field of accounting, ICT training for both students and teachers can improve the teaching-learning process. It highlights the importance of continuous improvement and action plans in universities to achieve favorable results in accounting education and its impact on society.
14	Models of accounting education, challenges posed by accountant training.	Fernández (2022).	He emphasizes the need to develop training and educational models so that accountants have a clear vision of reality.	To seek and apply new educational methodologies in the accounting field, especially those that allow the integration of this discipline with other areas of knowledge, in order to address social problems. Accounting is presented as a discipline that can provide valuable and relevant solutions in the social and professional context.

15	Theoretical references in the Teaching-Learning Process in the Accounting and Finance career.	Matos & Fernández (2019).	Explores the theoretical references that support the teaching-learning process in the Accounting discipline.	Teaching should be oriented to generate collective work, which implies that students actively participate in the learning process, as well as adapting teaching situations to be in line with students' interests and needs; something that could increase their motivation and commitment to learning.
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Source: own elaboration.

The data analyzed highlight the importance of academic innovation for the development of learning, and show that its use is essential in universities if they are to pursue the proper development of their pedagogical model. In terms of chronological analysis, in the last decade the aspect that is most reflected, in terms of academic innovation, is the use of ICT technological tools, due to the need to respond to the demands posed by society.

In this sense, educational innovation becomes a support to extend access to accounting and financial education. This allows the design of new study models from virtuality, radio education, mixed modalities, or blended learning, among other tools or channels for implementing programs benefiting students in financial literacy, but also for communities or target groups.

Therefore, ICTs are one of the essential aspects to be considered in educational innovation processes, the involvement of public accounting teachers and students in their design and exploitation, as well as in the generation of benefits. The use of accounting software for academic and professional training stands out, but it is also necessary to develop tools for populations outside the accounting world, as well as other forms of knowledge extension, through specific didactics.

This study also showed as a result the lack, as well as the need, for academic innovation to be taught in public accounting careers in IES in Colombia. This is due to the fact that one of the main aspects of financial education is that professors must be properly prepared, which is why new strategies are required to contextualize such training.

Another transcendental aspect extracted from the sources consulted has to do with the prospective of the field. According to the results reviewed, it is expected that the new proposals and contributions will favor greater solidity in the commitment of universities to the educational quality of their academic accounting education programs in the short and long term. At this point, it is necessary to emphasize that this quality should be oriented both internally in the training of future accountants, as well as externally, which has to do with their contribution to the financial literacy of society.

The following table presents the content analysis matrix of the results of the 15 documents. The categorization of educational relevance was made relatively, based on a general evaluation of each text of the analysis in Table 1, of course, in relation to the topic of educational innovation in accounting education and its extension possibilities. Legend of the categorization:

- High: Texts that present substantial and directly relevant information for educational innovation, providing significant ideas and approaches that could significantly impact education.
- Medium: Texts that contain relevant information but may address the topic in a more superficial way or have a more specific focus.

Table 2.
Content analysis matrix

N°	Principal Subject	Highlights	Educational Relevance
1	Role of knowledge in society	Development of technology, society and economy	High
2	Higher education institutions	Training of future professionals, ethics	High
3	Educational innovation in universities	Commitment and participation of the academic core	Medium
4	Electronic accounting in curricula	Use of technology in public accounting training	High

5	Technology in educational innovation	Academic updating, technology and pedagogy	High
6	Changes in learning with ICT	New pedagogical models with ICT	Medium
7	Lack of innovative pedagogy	Demotivation and learning strategies	Medium
8	Innovation in educational processes	Practices, strategies and methodologies	Medium
9	Adaptation to the 4.0 revolution	Integration of technological trends	Medium
10	Gamification in accounting education	Playful strategy to motivate learning	Medium
11	Benefits of gamification	Increased commitment and motivation	Medium
12	Effectiveness of the Kahoot application	Positive impact on motivation and performance	High
13	Continuous improvement in accounting education	ICT training and action plans	High
14	Integration of accounting with other areas	Contributions to social problems	Medium
15	Teaching oriented to collective work	Student participation and adaptation	High

Source: own elaboration.

The thematic and categorical analysis made it possible to identify different aspects and perspectives related to educational innovation in the accounting area. Technology integration in accounting education, academic updating, and the appropriate combination of technology and pedagogy stand out.

An emerging process emphasized by several of the sources was gamification. Seen as a strategy to motivate students, it contributes to the relevance and transmission of knowledge and favors the integration of pedagogical strategies in the training of future CPAs. In addition, the data consulted suggest that it promotes the development of relevant learning in accounting education while favoring the access of different groups.

In short, educational innovation is shown to be an important instrument to face the challenges and opportunities of the current higher education environment; educational innovation is a powerful tool to strengthen academic training in public accounting.

CONCLUSIONS

In a complex social context, at a regional and international level, financial literacy is an important resource for facing daily life as well as crisis processes, life transitions, or other circumstances in which the adequate management of financial resources is crucial. In achieving this literacy, higher education institutions play a fundamental role, as they are one of the main organizations in relation to the production of accounting knowledge, as well as in relation to the possibilities of its extension to society and industry.

Thus, financial accounting education takes on special relevance since, as shown in the literature consulted, it is not only vital for the proper training of future accountants but also for improving their competitiveness in a labor market that is becoming more complex worldwide. Therefore, confirmed by the analysis carried out, it is transcendental that financial and accounting education, as the core of financial education at a social level, be strengthened through educational innovation processes.

However, it must be emphasized that this educational innovation must be philosophically well-founded so that it does not respond exclusively to technocratic and elitist models but rather contributes to society as a whole and to different sectors in a specific way. This assumes that innovation processes arise from the convergence between social needs and the development of substantive processes specific to universities.

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