

IS ACCOUNTING EDUCATION KEEPING PACE WITH CONTEMPORARY CHALLENGES? A COMPARATIVE STUDY OF PUBLICATIONS

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Abstract: This study provides a comparative analysis of the accounting education literature using articles published in dedicated journals and Web of Science-indexed journals over a 28-year period (1997-2024). The paper highlights the main trends, emerging themes and geographical contributions in the context of accounting education, with a focus on adapting to the new global challenges of the post-pandemic context and the development of artificial intelligence. Through a combined quantitative and qualitative approach, the study emphasizes the importance of integrating educational technology, the development of digital competences and ethical values in the training of future professionals. The article contributes to a better understanding of developments and challenges in accounting education and provides directions for future research.

JEL classification: I23, M41

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1. Introduction

Education is an essential element for the development of society and individuals, providing a framework through which cognitive and vocational skills can be formed and utilized. Hanushek and Woessmann (2008) emphasize that through the development of cognitive skills, education contributes directly to overall economic growth. It is also emphasized that education significantly influences the way individuals work and perform, providing opportunities to acquire knowledge and develop professional skills (Schultz, 1961). Rieckmann (2012) states that education aims to shape a global society by creating new knowledge and developing essential skills.

Accounting is emerging as a universal language, integrated across all economic and social sectors. Ravenscroft and Rebele (2008) point out that accounting plays a crucial role in the interpretation and management of economic information, and adapting to changes in the economic environment requires continuous development

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of expertise for both practitioners and educators. In addition, Helliar (2013) argues that the global dimension of accounting and education is driving the need for accounting education to be as uniform and internationally comparable as possible. In the same vein, Cheng et al. (2023) emphasize that numerous researchers and practitioners have extensively studied ways in which the quality of accounting education can be improved so that students can meet the increasingly rigorous demands of the profession.

From this point of view, accounting education represents the meeting point between complex professional requirements and the role of universities in preparing future professionals. Given Anderson's (2002) (in Paisey and Paisey (2004)) finding of a steady increase in the number of articles exploring publication patterns in international journals, in conjunction with Marriott et al.'s (2014) observation that accounting education is one of the most frequently reviewed areas within the accounting discipline, it becomes necessary to synthesize reviews of the literature in this area. Such an approach is even more warranted as accounting education journals globally constitute a valuable resource (Urbancic, 2009).

The contemporary context, marked by the effects of the COVID-19 pandemic and the rise of the Fourth Industrial Revolution (4IR), is driving new approaches in accounting education (Cao et al. 2024). Tettamanzi et al. (2023) note, based on their analysis, that the period marked by the health crisis has highlighted and continues to highlight the need to rethink accounting education, including the technical and practical skills to be cultivated among students. In view of these changes, a review study in the field of accounting education becomes necessary to identify the trends, the state of the art, and the knowledge needed by future professionals so that they can respond to the growing demands and be prepared for the technological and economic innovations that define the present and the future of the profession.

This article makes significant contributions to the field of accounting education through an extensive comparative literature review of journals devoted exclusively to this field and articles published in Web of Science (WoS)-indexed journals. The study covers a broad period between 1997 and 2024, providing a detailed perspective on long-term developments and trends. A distinctive aspect of the research is the integration of the geographical dimension, highlighting the involvement of authors from different regions of the world, with a particular focus on contributions from Central and Eastern Europe, including Romania. In addition, the article explores the impact of contemporary factors, such as the COVID-19 pandemic and the rise of the Fourth Industrial Revolution, on emerging themes such as the use of educational technologies and digital skills training. By combining a quantitative analysis, focusing on trends and thematic categories, with a qualitative approach to the literature, the paper highlights major changes in the field and provides directions for future research, emphasizing the need for accounting education to adapt to the changing demands of the profession. This contribution supports a better understanding of the field and identifies existing gaps, proposing a more comprehensive and relevant approach to accounting education.

2. Research Design and Methodology

In the scientific approach of the present research on the literature, aimed at obtaining a concrete picture of the evolution, current status and new requirements of accounting education, we propose to analyze on the one hand the series of review studies carried out consistently from 1986 to the present articles based on six specialized

publications, and, on the other hand, to identify and analyze those articles addressing accounting education issues that have been published in WoS-indexed journals (Science Citation Index Expanded-SCIE and Social Sciences Citation Index-SSCI). Studies conducted on scholarly articles published in journals devoted exclusively to accounting education will be the mainstays of this research.

Our study is organized in three main sections. In the first section, we briefly reviewed the literature review articles in the field of accounting education, identifying and analyzing the 19 review articles conducted by teams of American researchers (Rebele et al., Watson et al., Apostolou et al., Churyk et al.) over a 38-year period. However, we also focused our attention on the contributions of other researchers, the most significant works being those of Paisey and Paisey (2004), Urbancic (2009), Jackling et al. (2013), Marriott (2014), Ameen and Guffey (2017) and Cao et al. (2024). Finally, given their significance in specialized research, we mention the work of Rebele and Pierre (2015) as well as that of Apostolou et al. (2017b) which provides a longitudinal quantitative analysis of research in the field of accounting education.

The second section includes a quantitative analysis of the accounting education literature, focusing on articles from two main sources: journals specialized in accounting education (indexed in international databases) and WoS-indexed journals (SCIE and SSCI), which are not specialized in accounting education. In this subsection, we analyze the evolution of the total number of scientific articles in the field, highlighting both the main research topics and the predominant type of research (empirical or descriptive), and, finally, identifying information on the geographical origin of the authors.

In the third section of this paper, we conducted a qualitative analysis of the literature in the field of accounting education, focusing on the seven main research themes that underlie the analysis of review articles on accounting education.

The research questions that emerge from the analysis are as follows:

1. How has the number of articles published on accounting education in specialized journals and WoS-indexed journals evolved between 1997 and 2024, and what factors may explain any fluctuations and trends identified?

2. What are the main thematic directions in accounting education research published in refereed journals and WoS-indexed journals between 1997-2024 and how can these be interpreted in the context of the development of the field?

3. How has the type of research (empirical or descriptive) evolved in the accounting education literature published in peer-reviewed journals compared to that published in WoS-indexed journals?

4. What are the geographical regions of origin of the authors with the highest publication interest in accounting education, and what explains this distribution of publications?

5. What are the most significant differences and similarities between specialized accounting education journals and non-specialized but WoS-indexed journals?

This paper adopts a systematic methodological approach, aiming to analyze the existing literature in accounting education for the period 1986–2024. The first step consisted of a qualitative analysis of literature review journals published between 1986 and 2024, in order to identify the evolution of major themes in accounting education. The methodology is inspired by recent studies (Apostolou et al. (2023), Churyk et al. (2024)) and structured around three main steps: data collection, critical analysis, and in-depth discussion. Data were collected from two main sources. The first source consists of internationally recognized accounting education journals, namely Accounting Education (AE), Issues in Accounting Education (IAE), Journal of Accounting Education (JAcEd), Advances in Accounting Education (AAE), Accounting Educator's Journal (AEJ), and Global Perspectives on Accounting Education (GPAE). For the period 1997–2023, data were extracted from review articles published annually by teams of American researchers (Rebele et al., Watson et al., Apostolou et al., Churyk et al.). These articles were summarized and presented graphically using Microsoft Excel. For 2024, in the absence of a review article, data were collected manually from the same journals using resources such as WoS, ScienceDirect Freedom Collection, and the publishers' official websites. However, the absence of recent issues was noted for some journals, such as Global Perspectives on AE since 2018 and AEJ for 2024.

The second source includes articles published in WoS-indexed journals (SCIE and SSCI), identified through a specific search for the term "accounting education" for the period 1997–2024. These articles were manually collected, synthesized, and analyzed in terms of their significant contributions to the field of accounting education. The results of this process were centralized in tabular and graphical form, using Microsoft Excel to facilitate the visualization of trends.

The analysis included two dimensions: quantitative and qualitative. The quantitative dimension concerned the evolution of the number of articles published, their distribution by research topic, and their classification according to the type of research (empirical or descriptive). The research topics were grouped into the following seven categories: curricular issues, core competences, teaching and assessment, teaching by content areas, educational technology, students, and teachers, according to a well-established scheme in the literature (Watson et al. 2003). We also considered the geographical distribution of the authors, investigating their origin and regional distribution.

The qualitative dimension involved selecting and analyzing articles with higher visibility (in terms of citations) from WoS-indexed databases for each of the seven identified themes. We considered only WoS-indexed articles, following the practice of regularly published review articles (Apostolou et al., 2023; Churyk et al., 2024) that focus on scientific papers in peer-reviewed journals. These articles were evaluated to capture their key contributions and to identify emerging research directions.

In-depth discussions revealed emerging trends in accounting education, such as the integration of educational technology and the development of digital and soft skills. The pandemic context and adapting to the requirements of the Fourth Industrial Revolution were also addressed, emphasizing the need to reconfigure the curriculum to adequately prepare students for the future.

Limitations of the methodology include the manual collection of data for the entire period under analysis (1997–2024) for WoS-indexed articles and for the year 2024 for scholarly articles, which may introduce errors. Also, the categorization of articles into one of the seven themes can sometimes be subjective, as an article may address several themes simultaneously. In addition, the analysis depends on the data summarized in the review articles for the 1997–2023 interval and focuses exclusively on WoS-indexed journals and accounting education journals, which may exclude other relevant sources. Nonetheless, the proposed approach provides a solid framework for exploring developments and trends in accounting education, helping to form a clear picture of the field.

3. Series of reviews and longitudinal analyses of accounting education research

The accounting education literature has developed in a continuum of reviews begun by Rebele and Tiller in 1986 (in Rebele et al., 1991) and continued to the present, mainly in JAcEd, IAE, AAE, and several other refereed publications. The first reviews (Rebele et al., 1991, 1998a, 1998b) focused mainly on topics related to teachers and, to a lesser extent, on processes and effects on students. As the number of articles increased, new journals were introduced (AAE, Accounting Education in the UK, GPAE), and topics began to be structured in appendices and tables, progressively highlighting teaching methods, learning resources, student performance, and curricular innovations.

An important development has been the attempt to balance empirical and descriptive research, but reviews have shown that although the share of empirical studies has increased (especially after 2006–2009), descriptive work has continued to be very common. Over time, researchers have pointed to methodological limitations and narrow scope (e.g., focusing on a single course, class, or institution), emphasizing the need to collect more extensive data to increase the generalizability of results.

In addition, corporate scandals (Enron, WorldCom) have generated interest in topics such as ethics, fraud, and forensic accounting, reflecting the field's adaptation to the challenges of the business environment. Other recurrent, relevant topics have been academic integrity, assessment and quality assurance of learning, and the role of students and teachers in improving the educational process.

With the development of digital technologies, a section dedicated to them was initially observed, and then it became an integral part of the general themes, especially after the pandemic period. In the 2020–2022 reviews (Apostolou et al., 2021, 2022, 2023), the total number of articles fluctuated, and educational technology topics progressively merged into other categories, indicating that digital solutions have become ubiquitously integrated into accounting education. The COVID-19 pandemic affected the flow and focus of publications, emphasizing the importance of rigorous experimental (pre/post-test, control groups) research aimed at highlighting pedagogical innovations and effective practices for online, hybrid, and face-to-face learning.

The most recent reviews (Apostolou et al., 2022, 2023; Churyk et al., 2024) attest to a resurgence of interest in empirical studies and content-area-specific instruction after a period of decline. At the same time, new themes such as generative artificial intelligence (e.g., ChatGPT) and data analytics, along with a growing concern for diversity and equity in the curriculum, have also emerged. The need to broaden research methodologies, explore the international context, and connect accounting education to the dynamic demands of the labor market was underscored. Thus, the literature paints a complex picture in which technological innovation, curricular transformations, and the need for methodological rigor define future research directions.

Another impactful contribution to this series of reviews is attributed to Rebele and Pierre (2015), who examined review articles on accounting education published in JAcEd over a 25-year period (1991 to 2015). At the foundation of their study lies the question of whether accounting education research has stagnated, mirroring concerns about accounting research in general in leading accounting journals. In their analysis, the authors noted that the topics covered were relatively limited, typically relying on the same research methods and theories. In addition, most articles are not empirical, do not address topics relevant to accounting practice, and do not employ experimental or quasi-experimental designs. Thus, the authors provided evidence that research in accounting education shows signs of stagnation. For a better awareness of the importance of accounting education research, Rebele and Pierre (2015) draw a parallel with the medical literature, where there is a preponderance of empirical rather than purely descriptive work or case studies, and where the urgency to find cures for severe diseases tolerates no delay or stagnation. They argue that a similar sense of urgency should apply in accounting education, given the responsibility to provide students with the best possible learning experience.

Exceptionally, in the same year, Apostolou et al. (2017b) published a paper providing an overview of all the analyses carried out over 20 years. This paper incorporates their entire body of review work in the field of accounting education, which aimed to analyze all publications in six journals and identify trends as well as gaps and areas for improvement. Over the 20-year period (1997–2016), 2023 articles were published and analyzed in 299 issues of the six accounting education journals, generally showing an upward trend in the number of articles published. The review study was based on categorizing the published articles into empirical, descriptive, teaching/assessment resources (by content areas), and case studies, the relative weight of which varied over the years. Referring to the five topics used to group the evaluated articles, "students" was the most researched topic during the last 20 years, accounting for 31% of all empirical articles, with an average of 11 articles per year. It was followed by "curricular issues," representing 28% of the empirical articles published in the same period, with an average of 10 articles per year across the six journals.

As geographic location became a topic of increasing interest, between 2010 and 2016 most empirical articles originated in the USA and Canada (65%), followed by Australia and New Zealand (14%), Europe (10%), Asia and Africa (6%), and other geographic regions (4%). The authors stress that geographic information, along with its cultural implications, is important in interpreting research findings, whether to assess the generalizability of those findings or to use as control variables. The most common content areas are financial accounting (n = 29, 30%) and ethical issues (n = 25, 26%).

Apostolou et al. (2017b) speak of a shift from descriptive to empirical work, but they note that a clear theoretical underpinning remains lacking. The authors also emphasize that while replication is crucial for developing a knowledge base in accounting education, studies that merely administer the same survey to a different sample—without examining why the sample and results might differ—are of limited use for advancing research. They conclude that future research should prioritize high-quality projects, theory development or the application of theories from other disciplines, and their validation across multiple populations.

The review series is complemented by a review of the literature published in AE over a decade (1992–2001) by Paisey and Paisey (2004), researchers outside the American group. A study of the progress of AE was also conducted by Wilson (2002), who analyzed several facets over the same period, including the 18 most frequent authors contributing articles to the journal. The study by Paisey and Paisey (2004) does not overlap with Wilson's (2002) study but aims to fill in the gaps of the literature reviews published in AE during its first 10 years.

Taking into account that the series of articles by Rebele et al. (1998a, 1998b), Apostolou et al. (2001), and Watson et al. (2003) covers the period 1991–2002, while Paisey and Paisey (2004) focuses on 1992–2001, an overlap (1992–2001) can be observed. This also allows a comparison with research published in the USA. Thus, to maximize the usefulness of the research and facilitate comparison, the

literature review broadly follows the headings used by the U.S. studies. It also supports researchers in search of topics and/or methodologies that have been less explored so far.

According to Paisey and Paisey (2004), the most frequently published topics were, in order of prevalence: curricular issues, course content and curriculum structures; course delivery and teaching methods; student characteristics; and teacher issues. Areas in which much less material was published include factors influencing students' performance, assessment, and student recruitment and job selection.

In terms of methods found in the literature, the authors observed that the four most common were description and reflection on teaching, literature review with critical analysis, statistical data analysis, and questionnaires. These four methods were employed in 82% of the papers. It was also noted that 61% of the papers mainly used qualitative methods, while 39% relied on quantitative methods.

As suggestions for future research, Paisey and Paisey (2004) welcome the growing interest in education research but underscore the need for a solid educational knowledge base. In addition, the authors highlight an area not considered by U.S. researchers yet notable for articles appearing in AE, namely professional issues. Several articles refer to the needs or educational systems of professional accounting bodies and access to these bodies, including competency standards.

Building on the long stream of reviews appearing in JAcEd, Urbancic (2009) made a significant contribution to accounting education research by emphasizing and refining previous analyses of authors' sources of inspiration, institutional affiliations, and geographical origins. The author examined 868 articles published in the six accounting education journals—also central to our research—over ten years (1998–2007). This period fully coincides with the reviews by Watson et al. (2003, 2007) and partially overlaps with Apostolou et al. (2001) (years 1998 and 1999) and Apostolou et al. (2010) (years 2006 and 2007).

The results of this study indicate that accounting education offers a vehicle for academic dialogue across a very broad segment of the global accounting research community. Evidence of the almost universal importance placed on teaching and learning is reflected in the wide mix of countries that have contributed publications to the field of accounting education.

Jackling et al. (2013) reviewed articles published in AE: An International Journal (AE) over the first 20 years of its existence (1992–2011). The authors focused on a thematic analysis of publications in the second decade, continuing the study by Paisey and Paisey (2004) on the journal's first 10 years. Of the 222 articles reviewed, 196 addressed a single topic, while the remaining 26 dealt with multiple topics. The subjects analyzed, based on their prevalence, were: (1) accounting syllabus (32.7%), (2) course delivery and teaching methods (23.6%), (3) student characteristics (21.8%), (4) faculty issues (9.7%), (5) accounting student recruitment and job selection (6.7%), and (6) professional issues (5.5%). Jackling et al. (2013) suggest, among other points, that future research in accounting education could draw on methods from education and psychology, offering opportunities to test theories and expand research areas.

A far-reaching contribution to the reviews of the research found in the six accounting education journals is made by Marriott et al. (2014), authors from outside the renowned group of American researchers. The research by Marriott et al. (2014) spanned a 5-year period (2005-2009), the period under review thus overlapping with

the review paper conducted between 2006-2009 by Apostolou et al. (2010), and partially (2005 only) with the one conducted by Watson et al. (2007) for the period 2003-2005.

In an attempt to compare and contrast the North American research tradition with that of Europe and the rest of the world, the authors included other (nonspecialized) journals that featured accounting education in 70 publications, in addition to the six specialized journals. The choice of alternative journals for publication was based on the list of elite accounting journals compiled by Reinstein and Calderon (2006).

Marriott et al. (2014) assess that the series of reviews carried out by the group of American researchers are generally very similar in design and purpose. While they competently summarize the content of published work, they provide little quantitative categorization and analysis. Moreover, in earlier studies in particular, they tend to ignore or downplay the importance of publications outside North America. The authors conclude that the review studies appearing in JAcEd indicate a gradual and delayed shift toward empirical work and an increasing focus on curricular issues.

Marriott et al. (2014) identified the differences among these six accounting education journals, showing the preferences and trends in terms of published articles for each one. As a result, scholars can use these findings to better decide which of these journals they should target for their work.

Focusing on the three journals that publish the most primary papers, AE (87), IAE (74), and JAcEd (31), Marriott et al. (2014) showed that survey-based research is more likely to be published in a UK journal than in any of the US outlets. The preference for experiments over surveys may be attributed to the greater pressure in the US to make education research look scientific.

Regarding non-specialized journals, Marriott et al. (2014) believe that they should have included many more articles on accounting education; 88 of the 99 journals ranked by Reinstein and Calderon (2006) did not publish any such articles. Thus, the authors reached the conclusion that specialized journals remain the best home for their work on accounting education research. In addition, readers interested in accounting education articles in other journals could also suggest, in the authors' view, that scholars are being directed to publish in journals considered highly ranked in their respective countries.

Another study reviewing the accounting education literature is by Ameen and Guffey (2017), who examined the first 16 volumes of Advances in Accounting Education (AAE): Teaching and Curriculum Innovations, published between 1998 and 2015. The authors evaluated 195 articles in the journal, focusing on citation and citation-rate analysis to identify the 20 most influential papers and the 30 most influential authors (out of 383 identified). They also compared the research themes and methodologies used in AAE with those published in JAcEd and IAE for the period 2006–2015. While the AAE analysis focused on identifying the articles with the highest impact, the comparison with the other two journals emphasized the most common research themes and methodologies in the published articles, thus offering a broader perspective on the field of accounting education.

The results indicate that, in AAE, the most common themes were classroom pedagogy and student issues, while in JAcEd and IAE, the predominant topics were teacher issues and classroom pedagogy. The dominant methodologies in all three

journals were "persuasive argument" and "persuasive argument with statistical support," accounting for over 60% of the articles published. The analysis provides authors with useful information about the types of articles and methodologies that had the greatest impact, guiding their choice of the appropriate journal for publication.

This paper complements the existing literature with a citation-oriented approach and an overview of methodological trends, offering valuable insights for researchers interested in accounting education and potential future research directions.

The recent work by Cao et al. (2024) represents a significant advance in the accounting education literature, being a longitudinal review that captures the transition from traditional topics (curriculum, assessment, teaching methods, educational technology, teacher and student issues in accounting) to new challenges introduced by the COVID-19 pandemic and the current Fourth Industrial Revolution. The authors frame their study around two research questions addressing key trends and themes in accounting education, as well as future directions for maintaining relevance in a dynamic global environment.

Their analysis was based on 673 articles published between 2005 and 2023 in 17 top accounting journals (ranked A* and A in the Australian Business Deans Council Journal Quality List—ABDC list), also including some specialized journals such as JAcEd, Accounting Research Journal (ARJ), and Journal of Business Ethics (JBE). Fourteen journals actively published articles on accounting education during the period under analysis; of these, IAE and AE are dominant, comprising 80.16% of all articles published.

The working method involved a multifaceted approach: bibliometrics with HistCite (co-citation analysis), VOS Viewer (bibliographic linkage), CiteSpace (structuring the knowledge map), and the R package Bibliometrix (providing descriptive insights: citation trend, author profile, keyword co-occurrence analysis, and thematic mapping). This complex strategy lends accuracy and objectivity to the findings, capturing thematic patterns in a comprehensive manner.

The three main research streams identified by Cao et al. (2024) are (1) accounting pedagogy, (2) competencies, and (3) ethics. In particular, the accounting pedagogy stream (the most significant) underscores learning approaches such as active learning, blended learning, and flipped classrooms, confirming a sustained interest in modernizing teaching practices. Themes related to competencies focus on the integration of technical skills (digital literacy, data analysis) and soft skills (communication, emotional intelligence), while discussions on ethics emphasize the need to foster professional responsibility among future accountants.

Compared with earlier syntheses (e.g., the periodic studies by Apostolou et al.), Cao et al. (2024) analyze a broader time range (2005–2023) and a wider set of journals, going beyond a strictly defined set of topics. Only the reviews in accounting education by Jackling et al. (2013), Rebele and Pierre (2015), and Apostolou et al. (2017b) cover comparable periods—20 and 18 years, respectively. In examining publications by year, Cao et al. (2024) report an average annual growth rate of about 15% in the number of articles on accounting education, indicating rising interest in this domain. Furthermore, the authors point out that between 2005 and 2023, 1,153 researchers contributed to this field, and 14 of them were notably productive, each publishing more than five articles on accounting education. The study also highlights a significant increase in citations per year, showing a continued push to improve and innovate how accounting is taught.

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-	Cao et al.	IAE	2024	17 Journals: JACEd, AE, IAE, plus 14 other Journals classified A*, A and B (ARJ, JBE)	2005-2023	
5	Apostolou JAcEd et al.		2017b	from ABDC list 6 Journals: JAcEd, AE, AAE , IAE, GPAE, AEJ	1997-2016	face-to-face interactions. 7 It is recommended to develop theories or apply theories developed in other disciplines and validate them on several populations.
	Ameen and		2017	EFA EFA, JACEd, IAE	1998-2015 2006-2015	195 Authors are provided with useful information about the types of articles and methodologies that have 661 had the greatest impact, making it easier for them to choose the right journal to publish their research.
4	Rebels and JAcEd Pierre	1	2015	1 Logbook: JAcEd	1991-2015	9 It is emphasized that improvements in accounting education must keep pace with new demands related to demographic changes in student demographics, the use of technology for the educational curriculum, the importance of information systems for graduates and the growing gap between accounting education and practice.
2	Marriott et BAR al.	t BAR	2014	6 Journals: JACEd, AE, AAE, IAE, GPAE, AEJ plus 11 non- specialized journals	2005-2009	446+70 There is a need for more articles on accounting education in non-specialized journals.
9	Jackling et al.	AE	2013	1 Diary: AE	1992-2011	222 The need to draw on some research methods from the disciplines of education and psychology is emphasized. This would provide an opportunity to test theories and thus expand research areas.
2	Urbancic	AEJ	2009	6 Journals: JAcEd, AE, AAE, IAE, GPAE, AEJ	1998-2007	868 For example, the need for a successful accounting education journal in the Pacific is suggested as an example of the need to attract contributions primarily from countries such as Australia, Hong Kong, India, Japan, Korea, New Zealand, Singapore, Taiwan or Thailand.
	Paisey and AE Paisey	d AE	2004	1 Diary: AE	1992-2001	209 It is emphasized that research work in the field of accounting education needs to build on a solid educational knowledge base.

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The thematic evolution revealed by Cao et al. (2024) begins between 2005 and 2010 with an emphasis on "accounting textbooks" and "business education," followed by a growing focus on "the accounting profession," "ethics," and "general skills" from 2010 onward. Reflecting the push to adapt to technological innovations, there is a deepening discussion on the crucial skills for future professionals (digitization, advanced data analytics, soft skills). Additionally, recent publications focus on the COVID-19 pandemic's impact, questioning the readiness of both teachers and students for online or blended learning.

Cao et al. (2024) primarily propose two research agendas: (1) strengthening education on the accounting profession's role in environmental protection by revising the curriculum and clearly defining relevant competencies, and (2) enhancing student engagement in the post-pandemic era through leveraging Fourth Industrial Revolution technologies—from augmented reality and the Internet of Things (IoT) to virtual reality—without overlooking the benefits of face-to-face interaction. This aligns with the need for the accounting profession to serve the public interest and sustainability, while also providing opportunities for developing countries to fortify their accountability. Moreover, the authors observe a shift from teacher-centered to student-centered learning approaches. Consequently, curriculum developers and educators must adapt their teaching strategies, integrate technical competencies and ethical values, and strengthen the overall academic culture.

In Table 1, we have summarized the longitudinal reviews of accounting education research examined in this section, to highlight the main trends, current status, and emerging demands in the field.

4. Quantitative analysis of accounting education literature

4.1 Introductory considerations

In the quantitative analysis of the literature in the field of accounting education, we focused on articles from two main sources, namely journals specialized in accounting education and WoS-indexed journals that are not specialized in accounting education. Beyond these two main sources for articles on accounting education, there is, of course, a third, broader category of journals that are neither specialized in accounting education nor indexed by WoS. However, we limited our analysis to the first two categories/sources because we considered that, generally, these journals publish higher-quality articles—either because they address an audience with indepth research interests in accounting education (the first category) or because the review and selection process for WoS-indexed journals is usually regarded as more rigorous than in other publications.

Traditionally, the specialized accounting education journals recognized in the literature and considered in this analysis are: AE, IAE, JAcEd, AAE: Teaching and Curriculum Innovations, The Accounting Educators' Journal, and GPAE. The first four of these journals are SCOPUS-indexed and are also published by reputable publishers (Routledge, American Accounting Association, Elsevier, and Emerald). They have been active in the field for several decades, publishing both scholarly articles on accounting education, instructional resources, and case studies. In this endeavor, we focused strictly on scholarly articles to maintain relevance and to ensure a comparable analysis. A total of 2,198 articles were identified in these six journals for the period 1997–2024, the distribution of which is shown in Figure 1.

In terms of WoS-indexed journals, we considered those included in the WoS Core Collection and indexed in SSCI and SCIE. In total, 79 WoS-indexed journals were identified as having published scientific articles on accounting education during the reference period. Of these, 13 journals had at least five articles on this topic, as highlighted in Figure 2.

Fig. 1: Distribution of scholarly articles on specialized accounting education journals in the period 1997-2024



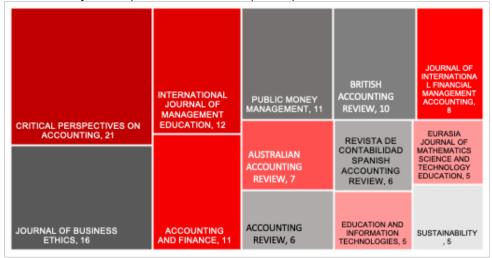
It is noteworthy that, in addition to journals devoted to related areas (e.g., Critical Perspectives on Accounting or Journal of Business Ethics), there are also journals with a broader managerial or educational focus (e.g., International Journal of Management Education) that publish papers relevant to accounting education.

The relevant point in time for the WoS indexing was the publication year of each article. For some journals, indexing is no longer currently valid, but the articles were indexed at the time of publication. Overall, for the WoS-indexed journals category, 224 articles were identified between 1997 and 2024, distributed by topic and type of research, as summarized in Table 3.

The period considered in this analysis covers 1997–2024 for articles from the two categories of sources (specialized journals and WoS-indexed journals). For the purpose of highlighting the evolution, this period was divided into nine sub-intervals: 1997–1999, 2000–2002, 2003–2005, 2006–2009, 2010–2012, 2013–2015, 2016–2018, 2019–2021, and 2022–2024. This segmentation made it possible to observe the dynamics of the number of articles and the main research themes, as well as to assess the type of methodological approach (empirical or descriptive).

The analysis examined the comparative evolution of the total number of articles published in the two categories, as well as their distribution by topic and by type of research (empirical or descriptive). For articles published in WoS-indexed journals, the geographical dimension of the research was also examined, i.e., the authors' country of origin. Quantitative data are presented in Tables 2 and 3 and the associated figures (Figures 1 and 2).

Fig. 2: Distribution of scientific articles in the field of accounting education published in WoS indexed journals (with at least 5 articles) in the period 1997-2024



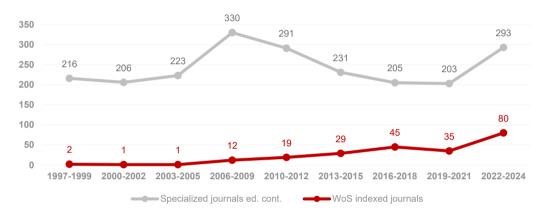
4.2 Evolution of the total number of scientific articles in the field of accounting education

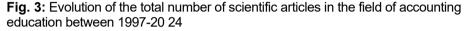
A first aspect analyzed is the evolution of the total number of scientific articles in the field of accounting education, published both in specialized journals and in WoS-indexed journals. As far as specialized accounting education journals are concerned, several fluctuations can be observed from one interval to another. Thus, between 1997 and 1999 there are 216 articles, followed by 206 in 2000–2002 and 223 in 2003–2005. A significant jump occurs in 2006–2009, when the highest level—330 articles—is reached. After this peak, there is a decrease to 291 articles in 2010–2012, 231 in 2013–2015, and 205 in 2016–2018, respectively. In 2019–2021, 203 articles are recorded, a marginal decrease compared to the previous period. However, the last analyzed interval (2022–2024) shows a notable rebound to 293 articles, marking an increase of about 44% compared to the previous interval. Overall, although some cyclicality may be observed—featuring episodes of growth and decline—the number of publications in specialized journals remains relatively stable overall, and this recent uptick suggests a possible renewed interest in accounting education among these journals.

Table 2 : Evolution accounting educatio	ו of the number of sc on between 1997-2024	etw	nu	19 19	er c 97-5	of s 202.	4 Scie	intif	ic a	ITI	cles	uo	act	Inoc	ltin	9 0	quc	atic	5	Iqno	ish	ed	j.	Ino	nals	1 of the number of scientific articles on accounting education published in journals specialized in on between 1997-2024	ecia	lizec	Ц
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Table 3 : Evolution between 1997-2024	oť	the	2	a E	er (of	SCIE	entif	lic	artic	cles	5	ac	noo	ntir	a B	onp	ati	5	qnd	list	bed	Ē	Ň	S in	of the number of scientific articles on accounting education published in WoS indexed journals	j	ourr	lals
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Core competences	0	0	0	0	0	0	0	0	0	-	-	0	0	0	0	0	0	0		0	0	-	~	9	-	e	4
Teaching/assessment process	0	-		0		0	0	0	-	e	4	4	2 6	e	10	13	2	6	8	4	8	ŝ	9	÷	19	29	48
Content area teaching	0	•	0	•	-	-	0	°	-	~	e	-	4 5	-	e	4	9	5 11		е С	9	2	9	33	19	34	53
Educational Technology	0	0	0	0	0	0	0	0	0	0	0	0	0	0	-	-	2	-	3	5 1	9	9	80	4	13	÷	24
Students	-	0	-	0	0	0	0	0	2	0	2	5	1 3	-	-	~	\$	6	8	3 2	5	®	9	4	22	13	35
Teachers	•	•	0	0		0	-	-	~	•	~	0	2 2	•	ŝ	ŝ	2	5	15 3	33	Ŷ	4	6	13	20	24	4
Total	-	-	~	2 0 1		-	2		1 6	۰	5	8	11 19	9	53	59	25 20		45 22	13	35	32	8	8	101	123	224

On the other hand, regarding WoS-indexed journals, the data indicate a marked upward trend in articles dealing with accounting education. While in 1997–1999 and 2000–2002 the number was very low (2 and 1 article respectively), and in 2003–2005 it remained at a similar level (1 article), from 2006–2009 there was a noticeable increase to 12 articles. This upward trend is accentuated in the following subintervals, with 19 articles in 2010–2012, 29 in 2013–2015, and 45 in 2016–2018. Even though the next period, 2019–2021, shows a decline to 35 articles, the 2022–2024 interval marks a spectacular increase to 80 articles—more than double the previous interval. This trajectory confirms that interest in accounting education has steadily grown in WoS-indexed journals, which may also signal a qualitative evolution of research on this topic, given the higher publication requirements in such journals.



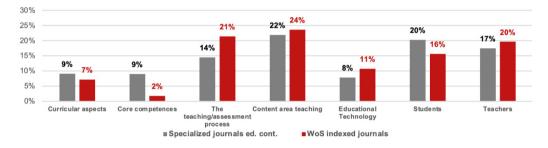


4.3 Main research topics addressed

To delineate the research area in accounting education into several main themes, we started from the categorization proposed by Apostolou et al. (2019), which includes curriculum and instruction, content-area teaching, educational technology, students, and teachers. Given the complexity of the curriculum and instruction theme, it was divided into three narrower subthemes: curricular issues, core competencies, and the teaching/assessment process. Thus, in total, seven distinct research strands emerged: (1) curricular issues, (2) core competencies, (3) teaching/assessment, (4) content-area teaching, (5) educational technology, (6) students, and (7) teachers.

In journals specializing in accounting education, over the entire 1997–2024 period, content-area teaching is the main research topic (22%), followed by students (20%) and teachers (17%), while the teaching/assessment process stands at 14%. Curricular issues and core competencies each register 9%, with educational technology at a lower level of 8%. These figures suggest that, overall, research has focused more on how subject content is structured and on the relationships between

students, teachers, and the teaching process. However, when looking exclusively at the most recent period (2022–2024), significant redistributions among themes emerge: the teaching/assessment process rises to 20%, educational technology to 11%, and student-related studies to 24%. Meanwhile, content-area teaching drops to 15%, core competencies to 5%, and teachers to 15%, while curricular issues maintain their share at 9%. These changes reflect a more intense orientation (in the last period compared to the entire span) towards teaching strategies and the use of technological resources, accompanied by increased interest in student experiences, expectations, or characteristics. The fact that articles focusing on educational technology did not register an even higher share (as might be expected given the current context) can be explained by the gradual integration of technology into the teaching process, thus reducing the need to address it as a distinct field (Apostolou et al., 2021).





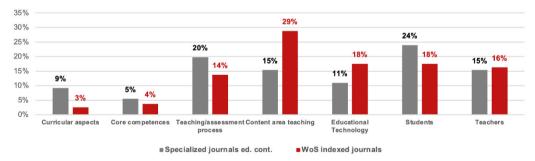


Fig. 5b: Share of research topics in accounting education in the period 2022-2024

In WoS-indexed journals, for the entire 1997–2024 interval, the highest percentages are for content-area teaching (24%) and the teaching/assessment process (21%), followed by teachers (20%) and student topics (16%). Educational technology occupies 11%, while curricular issues and core competencies stand at 7% and 2%, respectively. These values suggest a pronounced emphasis on disciplinary structure and the refinement of teaching/assessment practices, alongside significant research into the role of teachers and student engagement in learning. Examining the recent period (2022–2024), content-area teaching rises to 29%, and both instructional

technology and student topics increase to 18%, reflecting growing interest in the digitization of education and its implications for training future accounting professionals. Meanwhile, the share of teaching/assessment drops to 14%, teachers to 16%, and curricular issues and core competencies to 3% and 4%, respectively, indicating a possible reorientation of research toward innovative approaches in constructing specialized content and assimilating modern technologies.

Based on the above, the analysis of topic evolution and distribution in the literature of accounting education journals shows ongoing dynamism, with substantial variations in attention paid to certain themes. Nonetheless, a more stable increase in research devoted to student issues is evident, indicating that, despite fluctuations in other research areas, the focus on the learning experience and on the profile of new generations remains essential. On the other hand, the progression of topics associated with educational technology has become increasingly visible, especially toward the end of the period under review, signaling both the academic environment's adaptation to new digital realities and a repositioning of researchers toward teaching methods and tools. Furthermore, technology is gradually being integrated into the teaching process, thus reducing the need to address it as a separate field. With higher education transitioning to hybrid and online formats, this focus on educational technology is a natural response to both student needs and the demands of the labor market. In the medium to long term, the combined emphasis on students and the adoption of educational technologies may stimulate a profound reform in the design and delivery of accounting courses, leading to more interactive teaching methods and a learning environment better suited to today's requirements.

4.4 Predominant type of research (empirical or descriptive research)

Traditionally, scientific research is divided into two categories—empirical and descriptive—differentiated by the type of data collected, the nature of the processing, and the way conclusions are formulated. According to Apostolou et al. (2018), empirical articles base their conclusions on data analysis, generally adopting a quantitative approach. In contrast, papers that present strategies, describe innovations, or report the perceptions of groups (e.g., students, teachers) without using statistical analysis are categorized as descriptive, predominantly qualitative in nature.

In addition, in the accounting education literature, two other categories of publications are identified: instructional resources and case studies. In our analysis of accounting education articles published in WoS-indexed journals, we could identify only the first two categories (empirical and descriptive articles).

Figure 5 shows a balance between these two types of articles—empirical research (50%) and descriptive research (50%)—published in specialized accounting education journals. This equal proportion indicates a methodological variety, including both statistical analyses and studies focused on describing practices, strategies, or teaching methods. Essentially, it illustrates the need to approach accounting education from both a hypothesis-testing, data-driven perspective and a qualitative one, emphasizing the context and processes involved in teaching.

In WoS-indexed journals, between 1997 and 2024, the proportion is 45% empirical and 55% descriptive articles. Consequently, on this topic, WoS journals appear to publish slightly more descriptive than empirical research, which may reflect

an interest in presenting and discussing educational approaches not necessarily limited to statistical tests or extensive quantitative analysis. This finding does not, of course, preclude methodological rigor but rather highlights the variety of formats through which the academic community shares its insights and innovations in accounting education.

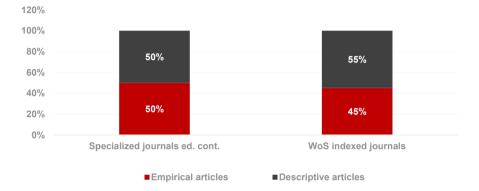


Fig. 5: Share of descriptive empirical research in accounting education between 1997-2024

Overall, it can be observed that although there are some differences in their relative proportions between specialized and WoS-indexed journals, both empirical and descriptive research remain well represented in the accounting education literature. On the one hand, empirical studies strengthen the evidence regarding the effectiveness of certain teaching methods or validate specific hypotheses, while on the other hand, descriptive articles clarify instructional practices and strategies by providing examples and qualitative insights that statistics alone may not fully capture. Looking ahead, maintaining a balance between these two types of research can lead to a more comprehensive understanding of how accounting education evolves and transforms, integrating both empirical arguments and concrete experiences from academia.

4.5 Geographical origin of the authors

Analysis of the geographic location of authors of articles in accounting education has gained increasing importance in synthesis research (Apostolou et al., 2013–2023; Marriott et al., 2014; Churyk et al., 2024), particularly because of the cultural and methodological implications that geographic distribution may have on the generalizability of findings. In line with this perspective, we consolidated data on the country of origin of the authors of articles published in WoS-indexed journals between 1997–2024 (Table 4, Figures 6 and 7), identifying contributions from 49 countries.

Country	No. of articl es	Country	No. of articles	Country	No. of articl es
Australia	55	Poland	4	Chile	1
USA	40	Saudi Arabia	4	Denmark	1
United Kingdom	37	Taiwan	4	Hungary	1
China	22	Yemen	4	Iran	1
Canada	12	Finland	3	Ireland	1
Spain	12	Norway	3	Kuwait	1
New Zealand Dollar	9	Portugal	3	Libya	1
South Africa	9	Turkey	4	Mexico	1
Netherlands	5	Cyprus	2	Nigeria	1
Romania	5	Indonesia	2	Qatar	1
Sweden	5	Japan	2	Singapore	1
Brazil	4	Jordan	2	Switzerland	1
France	4	Oman	2	Tanzania	1
Germany	4	Sri Lanka	2	United	Arab 1
-				Emirates	
Greece	4	Thailand	2	Vietnam	1
Italy	4	Austria	1		
Malaysia	4	Belgium	1		

 Table 1: Geographical origin of authors of articles in the field of accounting

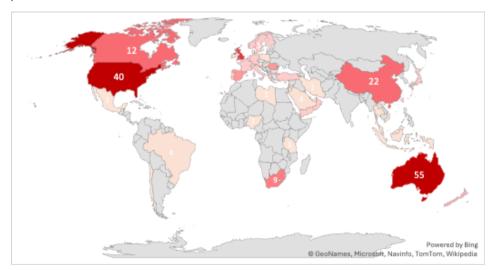
 education published in WoS indexed journals between 1997-20 24

The ranking is led by Australia (55 articles), followed by the United States (40 articles) and the United Kingdom (37 articles). Next come China (22 articles), Canada and Spain (12 each), New Zealand and South Africa (9 each), and the Netherlands, Romania, and Sweden (5 each), along with other countries contributing fewer publications.

In terms of continents, Oceania and North America are mainly represented by Australia, New Zealand, the United States, and Canada, respectively. Meanwhile, in Europe, the UK stands out, alongside countries such as Spain, Romania, France, Germany, Italy, Sweden, Norway, the Netherlands, and Poland.

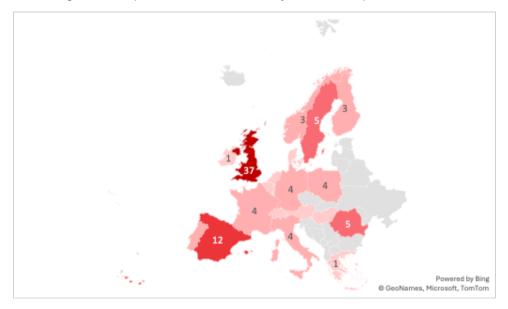
There is also a notable presence of Romanian authors in five articles on accounting education (Păcurari and Nechita, 2013; Pitulice et al., 2018; Gușe and Mangiuc, 2022; Ionescu-Feleagă et al., 2022; Bunea and Guinea, 2023), three of which were published in Romanian WoS-indexed journals (Transylvanian Review of Administrative Sciences, Revista de Cercetare și Intervenție Socială, Amfiteatru Economic). Also, authors from Africa (e.g., Nigeria, Libya, Tanzania) and the Middle East (e.g., Saudi Arabia, Qatar, United Arab Emirates) are present, confirming a significant expansion of academic interest in accounting education topics.

Fig. 6: Geographical map of the worldwide spread of authors of articles in the field of accounting education published in WoS indexed journals (with at least 3 articles) in the period 1997-2024



According to Marriott et al. (2014), in specialized journals, for the period 2005–2009, authors from North America (the United States and Canada) dominated (78%), followed at a considerable distance by European and Australian authors (9%). A more recent study (Churyk et al., 2024), focusing on 2023, shows a decrease in the dominance of North American authors (51%), accompanied by a slight increase in the number of authors from Australia (14%) and Europe (17%). In WoS-indexed journals, contributions come from a wider variety of geographical regions, and the primacy of North American authors (18%) is relatively diminished, surpassed by European countries (36%), Australia and New Zealand (22%), and Asia (19%).

This distribution confirms that, at the WoS level, articles on accounting education are published in an array of journals with global reach, enabling researchers from diverse cultural and institutional contexts to participate. Moreover, the involvement of countries in Central and Eastern Europe (such as Romania, Poland, and Hungary) and in Asia (China, Taiwan, Indonesia) suggests that accounting education topics are increasingly relevant in geographic areas where research in this field has not traditionally enjoyed broad international visibility. Consequently, the geographical origin of authors remains an important factor in evaluating and interpreting findings in accounting education studies, both in terms of the validity of results across different cultural contexts and from the perspective of international collaboration and the exchange of best practices. **Fig. 7:** Geographical map of the European spread of authors of articles in the field of accounting education published in WoS indexed journals in the period 1997-2024



5. Qualitative analysis of accounting education literature

In this section, we analyzed, in terms of content, the most cited scientific articles in the field of accounting education published in WoS-indexed journals between 1997 and 2024. We structured this analysis according to the seven main research themes identified in the previous chapter, namely: curricular issues, core competencies, the teaching/assessment process, teaching by content area, educational technology, students, and teachers. For each theme, we selected those articles that generated the highest level of interest among researchers, as measured by the number of citations in WoS-indexed journals.

5.1 Articles on curricular issues

Cheng et al. (2014) produced a highly influential study introducing the concept of integrated reporting, as outlined by the International Integrated Reporting Council (IIRC), and exploring how this idea evolved during the four years following the IIRC's establishment in 2010. This evolution culminated in the IIRC's release of a consultation draft for an integrated reporting framework in March 2013. The authors then examine key issues surrounding the draft—issues the IIRC must address before its planned publication of the integrated reporting framework at the end of 2013. Their analysis is based on concerns identified and communicated to the IIRC by a subcommittee of the International Association for Accounting Education and Research (IAAER), comprising international accounting scholars. Finally, they point to several research questions emerging from the ongoing development and implementation of integrated reporting.

In their 2013 paper, Tweedie et al. advocate for expanding the range of ethical theories covered in accounting instruction. They note that core accounting programs often fail to adequately address non-Western ethical frameworks or newer Western ethical thought, as reflected in the ethical content of foundational accounting textbooks and publications by the International Federation of Accountants. To remedy this shortfall, the authors propose a "thematic" method of incorporating ethics into accounting education. Their approach tackles two potentially competing aims from International Education Standard 4: first, that all accountants receive training to uphold global ethical norms, and second, that ethics instruction incorporate diverse ethical traditions and practices across cultures and countries.

In an article by Bayerlein and Timpson (2017), the authors examine the extent to which accredited undergraduate accounting programs in Australia meet the needs and expectations of the accounting profession. The study focuses on how well the learning outcomes of these programs align with the minimum educational expectations (MEEs) set by professional bodies. The results indicate poor alignment, with only 12.2% of programs meeting five of the six MEE criteria. The research highlights the continued dominance of technical skills at the expense of professional skills such as communication, teamwork, and self-management. This situation is explained by the ongoing use of traditional teaching paradigms, which perpetuates misconceptions about modern accounting practice. From a curricular standpoint, the article proposes adjusting programs to better reflect contemporary professional demands and support the integration of graduates into the labor market.

5.2 Articles on basic skills

Evans et al. (2009) investigate the "Language for Professional Communication in Accounting" (LPCA) project implemented in the Master of Accounting (MAcc) program at Macquarie University, Australia. The study explores the integration of professional communication skills with disciplinary learning through an interdisciplinary collaboration between lecturers and English language teachers. Results show that this approach enhances student performance and improves curricula. Through interviews and quantitative analysis, the researchers demonstrate that LPCA contributes to the development of skills needed for professional practice and reduces the failure rate in the Professional Communication in Accounting (CPA) exams. The proposed model goes beyond traditional approaches by integrating skills directly into disciplinary content, eliminating perceptions of deficits related to linguistic and cultural diversity. The paper highlights the relevance of interdisciplinary collaboration in internationalized education and provides an example of good practice for developing graduate attributes in diverse educational contexts.

In his study, Wilkin (2021) explores the development of critical reflection in accounting education through an integrated approach. The study examines a problem-based learning exercise introduced in a postgraduate course, where students select and evaluate research articles relevant to their disciplinary knowledge. The activity included interactive elements such as individual and collaborative learning, oral and written exercises, along with formative and summative assessments. Results indicate that this approach stimulates critical reflection and an understanding of knowledge relativity, aiding students' transition to

independent or contextual "ways of knowing." Comparative analysis of student perceptions over two consecutive years underscores the value of written reflection and qualitative feedback in building professional skills, including critical thinking. The article contributes to the literature by demonstrating how incorporating mainstream research into accounting education can develop essential professional competencies.

In a 2022 study, Barbosa et al. investigated how enterprise risk management (ERM) competencies influence accounting students' perceptions of their readiness for the job market. Their findings indicate that acquiring fundamental skills in risk management—covering recognized ERM frameworks (e.g., ISO 31000 and COSO), targeted methodologies, and interpersonal abilities—significantly boosts students' sense of professional preparedness. These insights underscore the importance of reinforcing curricula with ERM concepts and tools, alongside communication, strategic thinking, and change management proficiencies. Furthermore, the researchers present a model for evaluating risk management competencies, which universities can employ to pinpoint knowledge gaps. Overall, this work advances the discussion on the essential skills graduates need to succeed in increasingly complex economic environments.

5.3 Articles on the teaching/assessment process

In his 2008 study, Chiou examined whether using concept mapping could improve students' learning outcomes and engagement. A total of 124 students from two advanced accounting classes at a Taiwanese university's School of Management participated in the research. The findings led to two main conclusions. First, compared to a traditional expository teaching method, concept mapping resulted in significantly better performance. Second, most students viewed concept mapping positively, noting that it helped them understand, consolidate, and clarify accounting principles while also boosting their interest in the subject. They further acknowledged that the technique could prove beneficial in other academic areas.

Chabrak and Craig (2013) encourage accounting educators to enhance students' capacity for creativity and critical reflection. Their study focuses on a project assigned to French accounting students, who were asked to analyze the Enron scandal. The submitted work revealed both inventive and unconventional narratives from some students, but also highlighted considerable cognitive dissonance. This tension arose from inconsistencies students observed between capitalist rhetoric and capitalist reality, as well as from the presence of capitalist ideals that were not challenged in the accounting curriculum. The assignment showcased student dissatisfaction with the dominant economic framework and its moral and ethical foundations, and explored various ways in which students coped with their cognitive dissonance. The authors suggest several teaching and curricular strategies, including stronger ties between accounting topics and broader social contexts (to question the assumed normalcy of capitalism), encouraging students to consider different cultures and viewpoints, and prompting them to question dominant ideologies.

In a 2013 article, Hopper examines the reform of accounting pedagogy, highlighting the need to incorporate the socio-economic context of accounting into education and to promote critical thinking. His commentary, inspired by Chabrak and Craig (2013), explores four dimensions: the accounting curriculum, the relationship

between universities and accounting professions, student expectations, and the role of accounting academics. Hopper argues that, despite external and commercial pressures on educational systems, universities and academics bear the responsibility to avoid turning accounting courses into imitations of professional training. Pedagogical reforms, such as those based on critical case studies (e.g., Enron), can foster creative and critical thought but require institutional backing and curriculum changes. The conclusion stresses that integrating ethical, theoretical, and public interest issues into accounting instruction is essential to move beyond a purely technical approach and address both academic and student demands.

5.4 Articles on content-area teaching

In his 2001 paper, McPhail argues that emotion should be introduced into accounting education, particularly by fostering emotional engagement with others. He proposes that one way to achieve this is through business ethics education, suggesting that strengthening ethical engagement with others can help counter accounting's tendency to dehumanize. Although there have been specific studies on ethics and accounting education, an open debate about the objectives of accounting ethics education or the specific techniques that could be used to achieve those objectives remains scarce. The paper posits that accounting has become dangerously dehumanized and that one of the most important goals of any business ethics education should be to cultivate empathy for others. Drawing on developments in the medical, legal, and engineering professions, the work proposes concrete methods that could rehumanize accounting and foster a moral commitment to others.

Liyanarachchi and Newdick (2009) investigated how moral reasoning and the risk of retaliation influence accounting students' likelihood of reporting major irregularities in an educational setting. In an experiment with 51 New Zealand undergraduates, participants completed hypothetical whistle-blowing scenarios and were classified by moral reasoning level and by the severity of retaliation (strong or weak). The findings indicate that both factors significantly affect the decision to blow the whistle, underscoring the importance of ethics education in preparing future accountants. However, no significant interaction emerged between moral reasoning and retaliation. The study highlights the need to incorporate whistle-blower protection into legislation and integrate ethics training into the accounting curriculum, fostering ethical behavior and a safer reporting environment.

Brazel et al. (2016) examine the impact of the outcome effect on auditors' professional skepticism. The study shows how supervisors' evaluations are swayed by their awareness of an investigation's outcome, regardless of the quality of the auditor's decisions. In an educational context, the authors suggest that this bias may undermine auditors' motivation to probe inconsistencies. Employing an experimental approach, the research finds that auditors receive lower evaluations when a skeptical inquiry fails to uncover errors, even if their questioning is professionally justified. Additionally, consultation with supervisors did not mitigate this effect, and corporate managers often regard time spent on fruitless investigations as wasted effort. The study underscores the importance of appraisal systems that promote skepticism and proposes professional training to counteract such bias. These findings are relevant to teaching professional skepticism in accounting, offering concrete examples of cultural barriers to acquiring this essential skill.

5.5 Articles on educational technology

Carenys et al. (2017) set out to compare the impact of video games versus simulations in higher education, focusing on three central factors—attributes, motivation, and learning outcomes—recognized as key contributors to successful game-based digital learning. Their analysis revealed marked distinctions in both attributes and motivation but found no significant difference in learning outcomes. In other words, although each teaching tool was similarly effective in fostering knowledge, video games appeared to provide enhanced motivation and features that, collectively, yield a richer educational experience. Consequently, the findings advocate for the inclusion of video games alongside simulations in higher-level accounting and business courses, proposing a blended approach that combines "the best of both worlds."

Alshurafat et al. (2021) investigate the factors influencing the use of online learning systems by accounting students in public universities in Jordan during the COVID-19 pandemic. Their approach integrates social capital theory, the theory of reasoned action, and the technology acceptance model. The study examines data from 274 students, underscoring the role of social trust in shaping perceptions of both the usefulness and ease of use of technology. Subjective norms and perceived ease of use also positively influence attitudes toward technology adoption, which in turn determines the intention and actual use of online systems.

The results highlight the importance of technological, individual, and social factors in successfully implementing such educational platforms, offering recommendations for optimizing their use in developing countries. The study underlines the need for IT training and user-friendly system design, contributing substantially to the literature on educational technology.

Wisneski et al. (2017) explore the impact of the learning environment on students' academic performance in introductory and advanced accounting courses. Their mixed-methods study examines whether the learning environment (online or face-to-face) in a foundational course affects knowledge transfer and performance in subsequent advanced courses. Findings indicate that students' performance in advanced courses is not significantly influenced by the environment of previous courses, although strategies for dealing with academic challenges differ. Online students rely more on individual study, whereas those in traditional settings seek peer collaboration and tutoring. The study emphasizes the importance of integrating technological resources and consistent support in both modalities. Its major contribution lies in broadening understanding of the cumulative effects of learning in different environments, thereby informing better design choices for online and traditional courses.

5.6 Articles on student issues

In their 2008 study, Ferreira and Santoso note that while earlier research often portrayed students as holding unfavorable views of accounting, more recent discussions suggest that the accountant stereotype may have gained more positive connotations. Because these viewpoints can shape learners' attitudes, they can in turn affect academic performance. The authors examine how perceptions correlate with performance by surveying both undergraduate and graduate students in managerial accounting courses. The findings indicate that starting the course with negative perceptions of accounting hinders students' achievement, whereas adopting a more positive outlook by the semester's end exerts a beneficial impact on overall performance.

Blackmore et al. (2015) examine the experiences of Chinese accounting graduates from Australia in transitioning to the local labor market, highlighting the challenges faced by international students. Their longitudinal study involved 13 graduates and used Bourdieu's concepts of social, cultural, and symbolic capital to explore how they acquire skills and adapt to market rules. Key factors include English language proficiency, practical experience, and local social networks—all critical to enhancing graduates' "professional habitus." Although universities promote the internationalization of education as a way to increase cultural and social capital, the results point to a disconnect between student expectations and labor market realities. These findings underscore the need for education policies better aligned with market demands, offering practical opportunities and support for integrating international students.

Beatson et al. (2018) investigate how feedback based on partial exam results influences the self-efficacy beliefs of undergraduate accounting students. Their study, conducted at the University of Otago, explores the role of enactive success—demonstrated skills through tasks such as exams—in shaping selfefficacy. Data were gathered via surveys administered before and after the announcement of partial exam results. The results indicate that scores positively affect students' beliefs in their capacity to succeed, including their academic organization and willingness to seek help. The study highlights the significance of non-cognitive factors, such as self-efficacy, in educational success. The authors recommend careful assessment design to support the development of students' confidence in their abilities, offering practical implications for undergraduate education.

5.7 Articles on teacher issues

Kaplan (2011) examines the contributions of accounting research to professional knowledge, identifying substantial gaps in addressing practical challenges. The article stresses that accounting research has overly emphasized statistical methods applied to financial data, while overlooking measurement and evaluation issues central to practice. Kaplan highlights the necessity of fostering innovation, including in teacher education, to support future accounting professionals. He proposes a shift toward field studies and interdisciplinary approaches that tackle issues such as risk measurement, complex asset valuation, and the deployment of new financial instruments. Kaplan also recommends more active engagement of academics in practice development and the integration of technological innovations into educational programs. He urges closer collaboration between researchers and practitioners to produce relevant, applicable solutions.

Glaum et al. (2018) analyze the determinants of goodwill impairment decisions under IFRS using an international sample of firms from 21 countries. The study underscores the impact of regulatory frameworks and institutional investors on the appropriateness of these decisions. The findings show that goodwill impairment

is negatively correlated with economic performance and is shaped by managerial motivations, such as CEO compensation and earnings management preferences. In countries with strict enforcement of accounting regulations, firms exhibit more timely recognition of asset value declines. Conversely, in countries with weaker regulation, managerial discretion plays a significant role. The study also highlights that private monitoring by institutional investors can offset deficiencies in public oversight— especially in countries with less rigorous regulation—thereby emphasizing the institutional framework's importance for high-quality financial reporting.

Boyce and Greer (2013) approach the reform of accounting education from a critical perspective, focusing on the roles of cognitive dissonance, imagination, and critical thinking in the process. They argue that these elements are essential for an emancipatory accounting education centered on the real-world experiences of students and teachers. The study illustrates the obstacles encountered during reform efforts, highlighting students' resistance to information that conflicts with personal values and the capitalist system embedded in education. In this context, the authors propose employing cognitive dissonance as a pedagogical tool to foster critical thinking and social awareness, linking accounting instruction to social and global realities. This approach involves building an educational environment that questions the status quo and cultivates imagination as a catalyst for social change, emphasizing the teacher's role in managing these processes. The article offers valuable insights for transforming accounting education from a purely technical domain into a more social and critical field.

The qualitative analysis of the literature on accounting education underscores, first and foremost, the need for a broader curricular perspective. The reviewed articles indicate that focusing solely on technical skills is insufficient; it is crucial to integrate ethics, integrated reporting, and transversal skills (e.g., communication, strategic thinking) to adequately prepare future accountants.

Second, developing core competencies extends beyond specialized knowledge, encompassing abilities such as critical reflection, self-management, and an appreciation of diversity (including linguistic aspects). Research highlights the importance of interdisciplinary collaboration and integrated approaches, which not only enhance student performance but also increase curricular relevance.

Concerning the teaching/assessment process, there is an emphasis on active and critical methods (e.g., concept mapping) designed to spark creative thinking and address accounting's socio-economic dimensions. Studies propose that including complex case studies (like Enron) and ethical debates can bolster social responsibility and awareness.

Content-area teaching emphasizes the need to "re-humanize" accounting through the cultivation of empathy and moral reasoning. Integrating ethical considerations, including those related to whistleblowing, fosters an accounting culture capable of meeting real-world challenges.

Educational technology plays a major role, but research indicates that while video games and online platforms offer heightened motivation and interactivity, learning outcomes can be comparable between online and face-to-face environments. Social factors—such as trust and collaboration—remain paramount for effectively adopting new platforms.

Student-related issues reveal the effect of perceptions on academic performance and highlight the difficulties international graduates face when transitioning to the job market. Constructive feedback and the enhancement of self-efficacy can reshape attitudes toward accounting, improving results.

Finally, teachers play a vital role in reforming accounting education, requiring both collaboration with the profession and a critical, interdisciplinary outlook. Involving teachers in innovation and aligning content with practical realities helps cultivate a generation of accounting professionals better aligned with contemporary demands.

6. Conclusions and Recommendations

The analysis conducted in this article highlights a number of trends and challenges in the field of accounting education, reflecting on its evolution in a contemporary context marked by significant technological and social changes. One of the main contributions of the study is the integration of a comparative perspective between articles published in journals dedicated to accounting education and those published in broader journals indexed in WoS. This approach made it possible to identify differences and similarities in terms of the topics addressed and the methodologies used.

The results obtained show that, despite a certain cyclicality observed in specialized journals, the total number of scientific articles published in the field of accounting education remains relatively constant globally, with a notable revival in the recent period (2022–2024). In the case of WoS-indexed journals, the analysis even reveals a spectacular increase—up to 80 articles, more than double the previous interval. These findings are in line with trends reported in the literature, which in turn signal increasing concerns for accounting education (Apostolou et al., 2021).

Thematically, the data identified confirm a high level of interest in both the curricular dimension and the refinement of teaching and assessment practices, alongside increased attention to educational technology and student characteristics. These orientations are in line with the results of studies showing a gradual transition of research from traditional topics (curriculum, assessment) to the new demands of the digital environment (Paisey & Paisey, 2004; Cao et al., 2024).

At the same time, the findings indicate a significant emphasis on the integration of ethics and transversal skills in the training of future accountants, as well as the importance of developing critical reflection and self-management skills. These directions are consistent with the findings of other authors, who suggest the need to "rehumanize" accounting and to connect the teaching process to broader socio-economic contexts (Apostolou et al., 2017b).

In terms of research methodologies, the analyses carried out show that empirical and descriptive studies remain well represented, a trend that resonates with the findings formulated in the literature (Rebele & Pierre, 2015; Marriott et al., 2014). Therefore, adopting complementary approaches—statistical and qualitative—seems essential to capture the complexity of the educational process, and integrating perspectives from related fields (pedagogy, psychology) can add scientific rigor (Jackling et al., 2013). The analysis of the geographical origin of authors of scientific papers in WoS-indexed journals reveals a more diverse worldwide participation. While in the previous literature the dominance of North American authors was much clearer, the identified data point to a balancing of contributions, with a strong increase from Europe, Australia/New Zealand, and Asia. This picture confirms that the relevance of accounting education has long transcended the boundaries of regions traditionally engaged in research, and the new international contributions open up additional prospects for academic partnerships and cross-cultural exchange of best practices.

In conclusion, the results suggest that, in parallel with previous concerns about the efficiency and structure of curricula, accounting education is moving increasingly toward an integrated approach, where digital, ethical, and interpersonal competences are essential to prepare professionals who are able to meet the current demands of the labor market. Educators play a critical role in this process, both through innovative teaching and assessment initiatives and by adopting an interdisciplinary and collaborative attitude aimed at linking theoretical content with practical reality and fostering the responsible development of future accountants.

In the context of global dynamics and accelerating transformations of the accounting profession, strategic directions are needed to strengthen accounting education. Future research should explore in detail how emerging technologies such as generative artificial intelligence, augmented reality, and the Internet of Things (IoT) can be effectively integrated into the curriculum. This integration is essential to ensure the relevance of curricula and to produce market-ready professionals.

There is also a need to pay more attention to the development of transversal competences such as critical thinking, communication, and self-efficacy. Future research could explore the impact of innovative teaching methodologies such as flipped classrooms, gamification, or virtual/augmented reality experiences on the development of these skills.

In view of the globalization of accounting education, it is recommended that international collaborations be intensified to support the exchange of best practices and the adaptation of curricula to different cultural contexts. Studies could investigate how regional specificities influence the effectiveness of teaching strategies and their impact on student performance.

Finally, emphasis should be placed on continuous teacher training to prepare them to use modern pedagogical methods and digital technologies. Future studies could evaluate the effectiveness of teacher training programs in adopting these innovations, thus contributing to the quality of accounting education.

With these conclusions and recommendations, the article contributes to strengthening the understanding of the field of accounting education and provides a solid basis for future research and practice initiatives.

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