



## SIMPOSIUM ILMIAH AKUNTANSI 5

### SUSTAINABILITY IN ACCOUNTING EDUCATION: A NEW APPROACH FOR THE 21ST CENTURY

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#### ABSTRACT

The integration of sustainability principles into accounting education is an urgent necessity in the 21st century, demanding that accounting professionals guide sustainable business practices. A systematic review of 35 recent studies confirms an increased integration of sustainability content through dedicated approaches. However, the current methods lack holism in building essential sustainability competencies. This paper proposes a new model with three key pillars: (1) interdisciplinary learning environments, (2) field-based sustainability project activities, and (3) competency-based assessments. This integrated approach aims to produce multidimensional professionals capable of translating sustainability concepts into strategic and responsible business practices. Implications include the revitalization of accounting curricula and interdisciplinary partnerships. Further research is needed to evaluate the effectiveness of the integrated sustainability education model and its impact on the readiness and performance of accounting professionals.

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#### INTRODUCTION

In recent years, the concept of sustainability has gained significant attention across various sectors, reshaping the way organizations operate and make decisions (Purvis et al., 2019). Sustainability is no longer a peripheral concern but a central aspect of corporate accountability and transparency (de Oliveira et al., 2023). In response to this evolving landscape, accounting education, as an integral component of business education, must integrate sustainability principles. The importance of sustainability in accounting education is underscored by its ability to meet the changing demands of stakeholders who now expect transparency, ethical behavior, and accountability from businesses (Sharma & Stewart, 2022). To equip future accountants with the knowledge and skills needed to navigate the complexities of a sustainable future, accounting education must comprehensively address this transition (Chong et al., 2022). The purpose of integrating sustainability into accounting education extends beyond mere compliance with regulatory requirements.

It serves to build competence among future accountants, empowering them to understand and contribute to sustainable practices effectively (Sharma & Stewart, 2022). This integration not only promotes ethical behavior but also instills a sense of responsibility in addressing sustainability challenges. It fosters critical thinking and problem-solving skills, equipping students to analyze multifaceted sustainability issues and make informed decisions. Furthermore, it encourages innovation, enabling students to develop creative solutions that balance profit with social and environmental responsibilities (Gray, 2019). To achieve these objectives, a new approach to accounting education is essential. This approach should include the integration of sustainability principles throughout the curriculum, emphasizing practical experiences and case studies, encouraging collaboration with other disciplines to provide a holistic understanding of sustainability, regularly updating teaching materials to reflect the latest sustainability standards, and placing a significant emphasis on soft skills, such as effective communication and ethical decision-making. Furthermore, engagement with industry practitioners and sustainability experts bridges the gap between academia and the corporate

world, preparing students to navigate the complex landscape of sustainability and contribute to a more sustainable and responsible business environment.

Sustainability has emerged as a defining concern in the 21st century, encompassing environmental stewardship, social responsibility, and economic viability. Accounting education plays a pivotal role in equipping future accountants with the competencies to address these multifaceted challenges. The integration of sustainability principles into accounting education is indispensable for several reasons. Firstly, it empowers students to think beyond traditional financial metrics and understand the broader implications of business decisions, allowing them to assess not only short-term profitability but also long-term impacts on society and the environment (Makarenko & Plastun, 2017).

Secondly, sustainability in accounting education fosters a sense of responsibility and ethical behavior among students. By exposing future accountants to sustainability principles, they are encouraged to consider not only the bottom line but also the well-being of stakeholders, including employees, communities, and the ecosystem. This ethical foundation equips them to navigate complex dilemmas where financial interests may clash with societal or environmental concerns, promoting accountability and principled decision-making (Mubako et al., 2021).

Lastly, sustainability integration prepares students to be agents of positive change within organizations. Future accountants, armed with a comprehensive understanding of sustainability, are well-equipped to guide businesses toward responsible practices, reducing environmental impacts, promoting social equity, and enhancing long-term economic sustainability (Buhr et al., 2023). Their knowledge and skills enable them to support and lead initiatives that drive sustainability, contributing to a more responsible and sustainable future for organizations and society at large. In conclusion, sustainability in accounting education is a critical investment in preparing future accountants to address the intricate challenges of our times. It equips them with the capability to analyze business practices holistically, fosters ethical behavior, and empowers them to advocate for and implement sustainable solutions, making them invaluable assets for organizations striving for a more sustainable and responsible future.

In recent years, the integration of sustainability into accounting education has gained momentum due to the growing recognition of the interconnectedness between business, society, and the environment (Mburayi & Wall, 2018). However, fully realizing the potential of accounting education in addressing sustainability challenges necessitates a more deliberate and comprehensive approach. This essay aims to contribute to the ongoing discourse by reviewing existing literature to identify gaps and areas for improvement. By doing so, we can propose a new approach that not only equips future accountants with the necessary knowledge and skills to navigate the complexities of sustainability but also instills in them a sense of responsibility and ethical conduct (Cam, 2020).

The integration of sustainability into accounting education goes beyond simply adding a few courses on the subject; it requires a fundamental shift in the curriculum (Sharma & Stewart, 2022). This new approach should encompass not only a deep understanding of sustainability frameworks, reporting standards, and regulatory requirements but also an emphasis on critical thinking (Bartolacci et al., 2022), ethical decision-making (Poje & Zaman Groff, 2022), and the development of soft skills such as effective communication (Low et al., 2013). Furthermore, accounting education should facilitate collaboration with other disciplines (Zhang et al., 2018), incorporate real-world case studies and practical experiences (Reyneke & Shuttleworth, 2018), and regularly update teaching materials to reflect the latest developments in sustainability (Gil-Marín et al., 2022). By addressing these key elements, we can cultivate a new generation of accountants who are not only technically proficient but also socially and environmentally conscious, capable of driving positive change within organizations and society at large.

This paper aims to present a comprehensive model for integrating sustainability principles into accounting education. The model addresses current gaps identified in sustainability accounting education through three main pillars: interdisciplinary learning, experiential sustainability projects, and competency-based assessments. The goal is to enhance and prepare future accountants as change agents capable of translating sustainability concepts into responsible and strategic business practices.

## LITERATURE REVIEW

### Definition of Sustainability in Accounting

Sustainability in accounting involves the integration of environmental, social, and economic considerations into the accounting framework (Abeysekera, 2022). It emphasizes the need for businesses to account for their impact on the natural environment, their employees, and the communities in which they operate (Tettamanzi et al., 2022). Accountants play a vital role in assessing and reporting on factors such as resource consumption, emissions, waste generation, employee satisfaction, safety records, and corporate social responsibility initiatives. This broader perspective enables businesses to make informed decisions that balance financial performance with ethical, social, and environmental responsibilities.

Sustainability accounting is crucial for meeting stakeholder expectations, complying with regulatory requirements, managing risks associated with sustainability challenges, and creating long-term value for organizations. By accounting for their environmental and social impacts, businesses can demonstrate their commitment to sustainability and transparency, fostering trust and accountability with stakeholders. Accountants provide valuable insights into the financial implications of sustainability initiatives, helping businesses reduce their ecological footprint, promote a positive workplace culture, and align their investments with sustainable objectives (Juusola & Srouji, 2023). In embracing sustainability accounting, companies are better equipped to navigate the complexities of sustainability and contribute to a more responsible and sustainable future.

Numerous studies have delved into the integration of sustainability in accounting education, emphasizing the multifaceted benefits of this approach. They underscore the importance of incorporating sustainability principles into the curriculum, ensuring that future accountants are well-versed in sustainability frameworks, reporting standards, and their practical applications. This integration not only equips students with the knowledge to navigate the evolving landscape of sustainability but also fosters a sense of ethical responsibility and accountability in addressing environmental and social challenges. Additionally, by promoting critical thinking skills, accounting education encourages students to evaluate complex sustainability issues, understand their financial and non-financial implications, and devise innovative solutions. It transforms students into forward-thinking professionals who can contribute to responsible decision-making and reporting practices within organizations (Ezhawati et al., 2019).

Prior research has made significant strides in recognizing the importance of integrating sustainability into accounting education. However, a crucial gap remains in understanding how to effectively educate and equip future accountants with the requisite knowledge and skills to address the complex sustainability challenges of the 21st century. This gap underscores the need for a fresh approach that aligns accounting education with the specific needs and demands of the modern era. Such an approach should recognize that accountants are not just record-keepers but strategic partners who play a pivotal role in shaping organizations' sustainability strategies, decision-making processes, and reporting practices.

To bridge this gap, a new approach in accounting education must go beyond mere theoretical exposure to sustainability concepts. It should emphasize hands-on experiences and practical application, enabling students to comprehend the real-world implications of sustainability on business operations. This could involve engaging students in sustainability-related projects, internships, and case studies, providing them with opportunities to develop solutions to authentic sustainability challenges. Additionally, fostering interdisciplinary collaboration with other fields like environmental science, ethics, and social sciences can offer students a holistic perspective on sustainability issues. This multifaceted approach ensures that future accountants not only understand sustainability principles but can effectively apply them in their roles, ultimately contributing to a more sustainable and responsible business landscape.

## METHODOLOGY

The literature review methodology employed in this essay involves a systematic examination of existing research on sustainability in accounting education (Apostolou et al., 2021). This approach encompasses the collection and analysis of a wide range of academic

articles, books, reports, and other scholarly sources that delve into the integration of sustainability principles into accounting education (Mardawi et al., 2021). The process begins with identifying and selecting a diverse set of literature, including peer-reviewed articles published in academic journals, books authored by experts in the field, reports from reputable organizations, and academic papers presented at conferences or seminars. The goal is to gather a comprehensive collection of sources that represent a variety of perspectives and insights on sustainability in accounting education (Azzari et al., 2020).

Once the literature is gathered, a rigorous analysis is conducted to distill key themes, trends, and findings. This involves a critical evaluation of the methodologies used in each source, the research questions addressed, and the main conclusions drawn. The aim is to identify common threads, emerging issues, and gaps in the existing research. The analysis also takes into account the historical context and the evolution of sustainability in accounting education.

Through this literature review methodology, the essay aims to provide a comprehensive and up-to-date overview of the state of research in the field of sustainability in accounting education. It highlights the key findings and insights from existing literature and sets the stage for proposing a new approach to address potential gaps and further enhance the effectiveness of accounting education in preparing future accountants to navigate the challenges of sustainability. The data for this literature review is collected through comprehensive searches of relevant academic databases using carefully selected keywords and search terms. The primary databases utilized are Google Scholar, EBSCOhost, JSTOR, Wiley Online Library, and ScienceDirect. These databases provide extensive coverage of peer-reviewed journals and conference proceedings across the disciplines of accounting, higher education, and sustainability which are pertinent to this research topic.

Initial keyword searches are conducted using terms such as "sustainability accounting education", "sustainability integration accounting curriculum", "accounting education for sustainable development", "sustainability competencies accounting students", and "sustainability assessment accounting education". Articles with titles and abstracts containing these keywords are identified. Additionally, truncated forms of keywords such as "sustainab\*" and "account\*" are used to capture wider variations in terminology. Targeted searches of specific journals relevant to the accounting education literature are also undertaken to ensure comprehensive coverage. These include Accounting Education, The International Journal of Sustainability in Higher Education, Journal of Accounting Education, and Journal of Higher Education Theory and Practice.

The searches focus on articles published in the last 10 years to provide insights into current research and practice. However, seminal studies from 15-20 years ago are also included to understand the historical evolution of the topic. Reference lists of relevant articles are hand searched for any other key papers missed in the database searches. The extensive and systematic search process outlined ensures that a robust data set of recent studies examining various aspects of sustainability education in accounting is identified for review and analysis. This supports a rigorous literature review methodology. The data collected from the literature review is analyzed systematically using a qualitative thematic analysis approach. This involves carefully reading through the selected studies to identify recurring themes and patterns related to sustainability accounting education.

In the first stage, open coding is conducted by going through each study line-by-line and assigning codes to relevant segments of text. For example, text passages describing sustainability curriculum strategies are coded as "curriculum approaches", descriptions of assessments used are coded as "assessment methods" and so on. The coding is conducted manually by highlighting passages and noting codes in a spreadsheet. Thereafter, the open codes are reviewed and consolidated into overarching themes. For instance, all codes related to sustainability curriculum strategies are grouped under the theme "Curriculum Strategies". The key themes identified align with the elements of curriculum design - strategies, pedagogies, assessments, and outcomes. Sub-themes are also developed under the major themes based on patterns in the findings.

Within each theme, the frequency of specific codes is documented to identify predominant patterns across the studies. For example, under "Curriculum Strategies", the frequency of codes related to dedicated courses versus integrated modules is calculated to reveal common approaches. Key excerpts from studies are also documented under the relevant themes and sub-themes as evidence. Descriptive statistics are generated where possible to summarize quantitative data presented in the studies about curriculum approaches, student perceptions and sustainability competency assessments. Tables and charts illustrate findings analyzed under each theme to highlight significant patterns in the literature.

This rigorous thematic analysis process facilitates synthesis of findings across the studies reviewed to derive holistic insights into current sustainability education practices, outcomes, challenges and recommended enhancements. The themes feed into structuring the overall findings and discussion sections to systematically build an evidence-based rationale for the proposed new approach to advance sustainability integration in accounting education.

## FINDINGS

This section presents the key findings from the literature review on approaches for integrating sustainability in accounting education and associated outcomes. Thematic analysis of the 35 selected studies reveals predominant themes centered around curriculum strategies, pedagogies, assessments, and challenges.

Themes	Sub-themes	Examples in Literature
Curriculum Strategies	Dedicated sustainability accounting courses	(Pippin et al., 2021) (Gil-Marín et al., 2022)
	Integration into existing courses through modules or case studies	(Warin et al., 2011) (Lodhia & Sharma, 2019)
	Interdisciplinary approaches through joint projects and faculty collaboration	(Stubbs, W., & Schapper, 2011) (Apostolou et al., 2016)
	Problem-based learning using real-world sustainability scenarios and simulations	(Steinemann & Asce, 2004) (Istigfarin & Andayani, 2023)
Pedagogies Implemented	Experiential learning via live projects, field visits, and community engagement	(Intolubbe-Chmil et al., 2012) (Ahmed et al., 2019)
	Reflective activities like sustainability philosophy statements	(Ziegler & Ott, 2011) (Apostolou et al., 2020)
	Class discussions, debates, and role plays around ethical dilemmas	(Basourakos, 1999)
	Documentary analysis focusing on sustainability issues	(Kainzbauer et al., 2021)
Assessment Methods	Sustainability reports analysis	(Higgins & Coffey, 2016) (Christensen et al., 2021)
	Case study responses applying sustainability frameworks	(Sonntag, 2010)
	Triple bottom line projects and sustainability audits	(Lohmann, 2009) (Alhaddi, 2015)
	Carbon accounting exercises	(Afionis et al., 2017) (He et al., 2022)
	Self-reflection on sustainability learning	(Kefalidou et al., 2015) (Probowlan, 2022)
Outcomes and Impacts	Improved sustainability knowledge, ethical awareness, and critical thinking skills	(Whiley et al., 2017)

Themes	Sub-themes	Examples in Literature
	Higher motivation and engagement levels among students	(Nayir, 2017)
	Development of holistic, innovative, and strategic mindsets	(Kedia & Mukherji, 1999)
	Enhanced teamwork, communication, and professional skills	(Acai et al., 2017)
	Perception of sustainability accounting education as interesting, valuable, and relevant	(Al-Hazaima et al., 2021)
Challenges Identified	Lack of faculty expertise in sustainability topics	(Moore, 2005) (Richter-Beuschel & Bögeholz, 2020)
	Insufficient coverage of sustainability issues in curricula	(Watson et al., 2013) (Sharma & Stewart, 2015)
	Difficulties in incorporating active pedagogies with large class sizes	(Maringe & Sing, 2014) (Mburayi & Wall, 2018)
	Deficiencies in practical application of sustainability concepts	(Stubbs, W., & Schapper, 2011)

Table 1. Literature

These findings provide crucial insights into current sustainability accounting education strategies, outcomes, and limitations. This informs the development of an enhanced approach tailored to equip students with sustainability knowledge, skills, and mindsets needed in their future accounting careers.

The findings from the literature review underscore the growing recognition of sustainability as a fundamental element in the preparation of future accountants (Sharma & Stewart, 2022). It is evident that the integration of sustainability principles into accounting education has gained prominence as organizations and stakeholders increasingly prioritize environmental, social, and economic responsibility (Gray, 2019). The existing studies consistently emphasize several key aspects. First, there is a pressing need to incorporate sustainability into the accounting curriculum. This involves revising course materials and developing new content to ensure that students are exposed to sustainability frameworks, reporting standards, and practical applications. Such integration equips future accountants with a solid foundation in sustainability principles and their relevance to the accounting profession. Second, the importance of providing practical experiences cannot be overstated. Experiential learning, through internships, projects, and real-world case studies, exposes students to the practical challenges and opportunities that organizations face in the context of sustainability. These hands-on experiences bridge the gap between theory and practice, enabling students to apply their knowledge and skills to real sustainability challenges.

However, the analysis of the data also reveals that despite the progress made in incorporating sustainability into accounting education, several challenges and opportunities for improvement remain. Firstly, there is a need to enhance interdisciplinary collaboration. Sustainability issues are inherently multidisciplinary, spanning environmental science, ethics, economics, and social sciences. Accounting education should strive to foster collaboration with these related fields to provide students with a holistic understanding of sustainability. Joint courses, interdisciplinary projects, or guest lectures from experts in various sustainability-related disciplines can enrich students' perspectives and enable them to approach sustainability challenges more comprehensively.

The assessment of sustainability competencies is an area that requires refinement. Traditional assessment methods may not effectively measure students' understanding of sustainability and their ability to apply it in practice. Developing new assessment tools and methods that

accurately evaluate sustainability competencies, such as critical thinking, ethical decision-making, and problem-solving skills, is crucial. These assessments should align with the intended learning outcomes related to sustainability education, ensuring that students are adequately prepared to meet the demands of the modern accounting profession, which increasingly involves sustainability reporting and decision-making.

## **DISCUSSION**

### **Interpretation of Findings**

The findings reveal growing integration of sustainability topics in accounting curricula through dedicated courses and modules in existing classes. This indicates recognition of the importance of sustainability capabilities for accountants. However, studies emphasize need for further curriculum innovation to build comprehensive sustainability competencies. Use of active pedagogies like experiential projects is evident, suggesting shift from conceptual to applied learning. However, large class sizes and resource constraints are highlighted as barriers. Assessments are also moving towards evaluating application of sustainability tools, but need further alignment with learning outcomes. Positive outcomes found in terms of sustainability knowledge, ethical awareness, critical thinking and holistic mindsets indicate effectiveness of current strategies. But gaps in practical skills, faculty experience and curriculum coverage suggest room for improvement in fully preparing students for professional accounting roles.

### **Comparison with Wider Literature**

The findings resonate with broader studies on sustainability education, which advocate for interdisciplinary, experiential and competency-focused learning (Fernando, 2020). Accounting education literature also emphasizes need for greater integration of ethics, systems thinking and reflective skills (Poje & Groff, 2022). This underscores the importance of the key elements proposed for a new sustainability education approach – interdisciplinary learning, practical experiences and effective assessments. Collaborative curriculum development and sharing of resources also aligns with recommendations for sustainability education globally (Hays & Reinders, 2020).

### **New Approach: Key Features**

The proposed approach is framed by constructivist and transformative learning theories that view learners as active participants in creating knowledge and meaning (Singer-Brodowski, 2023). This aligns with the identified gaps and need for learner-centered sustainability education. The approach has three defining features:

1. Interdisciplinary learning environments
2. Joint projects, shared faculty, and team teaching with sustainability science disciplines can enable exchange of diverse viewpoints for complex problem solving (Liu et al., 2022)
3. Experiential sustainability projects
4. Real-world projects, case studies and simulations allow application of concepts learned and build strategic thinking and ethical reasoning skills (Bryan, 2021).
5. Effective sustainability assessment methods
6. Rubrics and assessments that evaluate how students apply sustainability accounting tools in context are important for competency measurement (Apostolou et al., 2021).

These elements can provide an enriched educational experience to develop well-rounded sustainability capabilities. They are interconnected and mutually reinforcing in line with integrated course design principles.

### **Implications and Recommendations**

Several implications emerge - sustainability education needs to move from bolt-on approaches to complete integration throughout accounting curricula. Outcomes demonstrate this comprehensiveness is key for developing strategic sustainability mindsets versus just conceptual knowledge. Secondly, collaborative partnerships are vital - between accounting and sustainability disciplines, and external stakeholders like companies and NGOs. Finally, faculty training is essential to build educators' own sustainability competencies to effectively facilitate student learning. The findings from the literature review strongly advocate for the necessity of a

new approach to further enhance sustainability in accounting education. This approach should be multifaceted and designed to address the multifaceted nature of sustainability challenges in the modern business landscape.

One of the core pillars of the proposed approach is the creation of an interdisciplinary learning environment. Sustainability issues inherently span multiple disciplines, including environmental science, ethics, social responsibility, and economics. To prepare future accountants comprehensively, accounting education should collaborate with these related fields. This can be achieved by offering joint courses, workshops, or seminars that bring together students from various backgrounds to work on sustainability-related projects. Guest lectures from experts in sustainability-related disciplines can provide valuable insights, and research opportunities should be encouraged to facilitate cross-disciplinary cooperation. By fostering an interdisciplinary approach, students can develop a more holistic understanding of sustainability, which is essential for addressing the complex, interconnected challenges faced by organizations.

Practical experiences play a pivotal role in developing students' ability to apply sustainability principles in real-world scenarios. The proposed approach should emphasize the integration of such experiences into the curriculum. This can be accomplished through internships with organizations that are committed to sustainability, as well as through engaging students in real-world sustainability projects and case studies. These experiences offer students the opportunity to grapple with authentic sustainability challenges, applying their knowledge and skills to develop solutions and gain a deeper appreciation of the practical implications of sustainability in a business context. By incorporating experiential learning, students are better prepared to navigate the complexities of sustainability in their future roles as accountants.

The proposed approach also highlights the importance of developing and implementing effective assessments that accurately measure sustainability competencies. Traditional assessment methods may fall short in evaluating students' grasp of sustainability concepts and their capacity to apply them in practice. New assessment tools should be designed to evaluate critical thinking, ethical decision-making, problem-solving skills, and the application of sustainability principles. These assessments should align closely with the intended learning outcomes related to sustainability education. They should not only measure students' knowledge of sustainability but also their capacity to make informed, ethically grounded decisions that contribute to sustainable practices in organizations. By refining assessment methods, accounting education can ensure that graduates are well-prepared to meet the demands of the modern accounting profession, which increasingly involves sustainability reporting and decision-making.

The proposed new approach builds upon previous research by emphasizing the importance of interdisciplinary collaboration and experiential learning. It goes beyond traditional accounting knowledge and focuses on developing the skills required for sustainable decision-making.

## CONCLUSION

The integration of sustainability principles into accounting education is imperative in the 21st century, demanding that accounting professionals guide organizations towards sustainable business practices. A systematic review of 35 recent studies confirms the increased integration of sustainability content in accounting curricula through a dedicated approach. However, the current approach falls short of being holistic in building the necessary sustainability competencies.

Therefore, this paper proposes a new approach with three main pillars - (1) interdisciplinary learning environment, (2) sustainability field projects, and (3) competency-based assessment. This integrated approach is grounded in constructivist and transformative learning theories to produce multidimensional professionals capable of translating sustainability concepts into strategic and impactful organizational implementation.

Interdisciplinary learning is pivotal, given the complex, multidisciplinary nature of sustainability challenges. Cross-disciplinary collaborations, dialogues, and projects can enrich students' perspectives, enhancing their ability to devise holistic solutions. Experiential learning is equally



vital in bridging the theory-practice gap. Authentic projects, case studies, and simulations enable the contextual application of concepts while building critical thinking and ethical reasoning skills. Additionally, developing rigorous assessment tools focused on evaluating students' sustainability competencies is imperative. Assessments must align with intended learning outcomes, gauging competencies like systems thinking, ethical decision-making, and critical analysis.

This integrated approach can provide a robust foundation in sustainability by enabling students to apply concepts in real-world contexts, collaborate across disciplines, and receive regular feedback on skill development through authentic assessments. It transforms sustainability from an add-on element to an immersive experience that equips students to become strategic leaders and change agents advancing sustainability practices within their organizations. Several implications emerge from these findings. Firstly, sustainability can no longer be confined to dedicated courses but requires complete integration throughout accounting curricula. Furthermore, partnerships are essential – between accounting and other disciplines, and external stakeholders, to support interdisciplinary learning. Faculty training is also imperative to enhance educators' own sustainability capabilities and leadership.

### Recommendations and Limitations

There is a need for the revitalization of accounting curricula with comprehensive integration of sustainability content rather than segregation. Collaborative partnerships between disciplines and external stakeholders are also vital to bring the reality of the industry closer. Faculty training in sustainability leadership is essential to enrich teaching. The main limitation is the lack of evaluative studies on the effectiveness of the integrated sustainability education model.

### Further Research

Future research should explore the learning outcomes and preparedness of accounting students regarding specific sustainability competencies through the proposed integrated approach. Longitudinal studies assessing the impact of sustainability education interventions on the performance and leadership of graduates in the workplace are crucial to strengthen the transformative argument of this paper.

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