
CURRICULUM INSERTION OF THE SUSTAINABILITY THEME IN UNDERGRADUATE ACCOUNTING SCIENCES COURSES IN PARANÁ'S PUBLIC UNIVERSITIES

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▪ Received: 01/07/2021 ▪ Approved: 06/07/2021 ▪▪ Second Approved Version: 07/07/2021

ABSTRACT

The objective of this research is to analyze in what ways undergraduate Accounting Sciences courses in Paraná's public universities have been including the sustainability theme in their Pedagogical Projects since 2002. Content analysis based on the Pedagogical Projects of six courses was employed. The results indicate that the courses have evolved by incorporating the sustainability theme, due to an increased consideration of contents in the disciplines. The evolution was detected as of 2012, influenced by assessment documents and by the curricular guidelines of the course. The Crossdisciplinary form of insertion was predominant, with greater social coverage, pointing to a disconnection between the socioenvironmental and economic domains. Therefore, the adoption of the sustainability theme in the investigated courses is maturing; however, despite established by law, its insertion in the Pedagogical Projects depends on the individuals. Therefore, the effectiveness of the coercive character is questioned, as it can lead to a ceremonial adoption. In this case, specific laws proved to be effective, indicating the need to give greater importance to the sustainability topic. This research contributes to the literature, given the lack of studies. Its practical contributions come from recommendations for compliance with relevant laws, in addition to helping eliminate deprivations of freedom with regard to the absence of the sustainability theme in the education of accountants. It also

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contributes to the well-being of society, as organizations generate negative externalities.

Keywords: Sustainability. Public education. Undergraduate courses. Accounting Sciences. Paraná.

INSERÇÃO CURRICULAR DA TEMÁTICA SUSTENTABILIDADE EM CURSOS DE GRADUAÇÃO EM CIÊNCIAS CONTÁBEIS DE UNIVERSIDADES PÚBLICAS PARANAENSES

RESUMO

O objetivo da pesquisa é analisar de quais formas os cursos de graduação em Ciências Contábeis de universidades públicas do Paraná inserem a temática sustentabilidade nos Projetos Pedagógicos, desde o ano de 2002. Utilizou-se da análise de conteúdo tendo como base Projetos Pedagógicos de seis cursos. Os resultados indicam que os cursos evoluíram ao incorporar a temática sustentabilidade, em razão do aumento da consideração de conteúdos nas disciplinas. A evolução foi detectada a partir de 2012, influenciados por documentos de avaliação e pelas diretrizes curriculares do curso. A forma de inserção *Crossdisciplinar* foi predominante com maior abrangência do social, indicando que há desconexão entre o socioambiental e o econômico. Logo, a adoção da temática sustentabilidade nos cursos investigados está em fase de amadurecimento, porém, mesmo que seja estabelecida por Lei, sua inserção nos Projetos Pedagógicos depende dos indivíduos. Diante disso, questiona-se a eficácia do caráter coercitivo, pois, pode induzir a adoção cerimonial. Neste caso, legislações específicas demonstraram ser eficazes, indicando a necessidade de atribuírem maior peso na temática sustentabilidade. Esta pesquisa contribui com a literatura, diante da carência de estudos. As contribuições práticas advêm de recomendações para o cumprimento das legislações pertinentes, além de contribuir para eliminar privações de liberdade no que se refere a ausência da temática sustentabilidade na educação do contador. E, ainda, para o bem-estar da sociedade, pois, organizações geram externalidades negativas.

Palavras-Chave: Sustentabilidade. Educação pública. Graduação. Ciências Contábeis. Paraná.

1 INTRODUCTION

In 1986, the Our Common Future report highlighted Sustainable Development, defining it as being about meeting the needs of the present, without compromising future generations (Barbieri, Vasconcelos, Andreassi & Vasconcelos, 2010). Thus, sustainability means that there is no development without the socioenvironmental factor (Slomski, Slomski, Kassai & Megliorini, 2012). In other words, it is the simultaneous importance of economic, environmental and social aspects (Elkington, 1997). The conception of inserting the sustainability theme in education comes from global conferences and meetings that have

pointed out its relevance in higher education (Doh & Tashman, 2014). Discussions on this topic have been taking place since 1946, and the last event of relevance to the theme was the launch of the Sustainable Development Goals (SDGs) in 2015. In the meantime, global conferences and meetings encouraged the establishment of policies aimed at sustainability.

This research contributes to discussions about sustainability in the business sphere. To this end, it was considered that there is evidence indicating that the valuation of social justice on the part of companies had no influence on consumers supporting sustainable businesses (Peterson et al., 2021). That said, a question arises: are the business models prepared to contribute to Sustainable Development? Therefore, among other needs, the effort to train business professionals with a view to meeting socioenvironmental interests is considered, given that the actors inserted in the business sphere must have knowledge, as well as ethical and responsible behavior to identify problems and implement solutions (Akrivou & Bradbury-Huang, 2015; Elkington, 1997), also with the support of the community.

In Brazil, legislations such as the Law of National Guidelines for Basic Sanitation (LDNSB) and the National Policy on Solid Waste (PNRS) were issued; they encompass sustainability in the business domain, indirectly influencing the insertion of the sustainability theme in education. A milestone in the national policy was the National Policy on Environmental Education (PNEA). In view of this law, the Ministry of Education (MEC, 2012) set the National Curriculum Guidelines for Environmental Education (DCNEA). In this way, undergraduate courses should not include specific disciplines about the theme; instead, the latter should be approached in an integrated manner, that is, transversally and interdisciplinarily (Brasil, 1999; MEC, 2012).

In order to address sustainability in the business sphere, Akrivou and Bradbury-Huang (2015) emphasize the relevance of courses in the business field. Such field, exposed by the international literature, is equivalent in Brazil to the field of the Social Sciences, Business and Law (EUROSTAT/UNESCO/OECD, 2009). By the way, Akrivou and Bradbury-Huang (2015); Benn and Dunphy (2009) question whether the education offered by business courses is really contributing to Sustainable Development, due to their economic and technical focus. The Accounting Sciences course is responsible for training a portion of the actors inserted in the business sphere (Jacobi et al., 2011). This course stands out because of the assignments of an accountant, such as decision making, as well as preparation and interpretation of non-financial reports.

Gray and Collison (2002); Gray (2010) argue that inserting the sustainability topic in accounting means addressing: socioenvironmental reports, practices to promote corporate sustainability, experiments designed to provide a perspective of the theme at an organizational level, etc. For Deegan (2017), accounting must go beyond the search for compliance with the law and accountability to stakeholders. Specifically, the National Curriculum Guidelines for undergraduate Accounting Sciences courses, provided for in the Resolution of the National Council of Education/Chamber of Higher Education (CNE/CES) No. 10 of 2004, recommend including discussions in the course that allow raising citizen awareness and facing social problems. This resolution makes room for the sustainability theme to be addressed through practical-theoretical training contents, such as complementary activities, independent studies and elective disciplines.

However, Figueiró and Raufflet (2015) establish that there are several ways to insert the sustainability topic in business courses (Monodisciplinary, Crossdisciplinary, Interdisciplinary, Multidisciplinary, Transdisciplinary, and through a new course or program). Therefore, there is no consensus on which form for the insertion of this theme is more effective for its promotion (Benn & Dunphy, 2009; Demajorovic & Silva, 2012; Fisher & McAdams, 2015; Gomes, Sampaio, Azevedo & Slomski, 2012; Lambrechts, Mulà, Ceulemans, Molderez & Gaeremynck, 2013; Leal Filho, Shiel & Paço, 2015), due to the autonomy granted by MEC to the actors inserted in Higher Education Institutions (HEIs) for them to design the courses.

This research considered that sustainable education should be characterized as an integrated, interdisciplinary and continuous practice (Interdisciplinary and Transdisciplinary forms, to the detriment of the others). International studies report that the presence of the sustainability theme in business courses is deficient (Doh & Tashman, 2014; Fisher & Bonn, 2011; Larrán & Andrades, 2015), and so is the national literature on accounting education. However, the focus of national studies is to detect specific disciplines on the theme (Dallabona, Cunha & Rausch, 2012; Starosky Filho & Rausch, 2012).

In light of the foregoing, some questions arise regarding the development of undergraduate Accounting Sciences programs, in the sense of evidencing how the sustainability matter is addressed. In this context, one question is worth asking: in what ways do undergraduate Accounting Sciences courses in Paraná's public universities include the sustainability theme in their Pedagogical Projects in force since 2002? Thus, this research aimed to analyze how undergraduate Accounting Sciences courses in Paraná's public HEIs have been inserting the sustainability theme in their Pedagogical Projects since 2002.

In short, the choice was to investigate Accounting Sciences courses in the south of Brazil, due to evidence that its states stand out for complying with the PNEA (Dallabona et al., 2012). In this context, only the State of Paraná was considered, for having a greater number of Accounting Sciences courses in public HEIs compared to the other states within its region (MEC, 2018). Furthermore, content analysis was used (Bardin, 2016) and based on Pedagogical Projects in force between 2002 and 2018 (documentary research). Thus, this research advances by thoroughly investigating sustainability in the courses (by expanding the categorization of the subjects involving the theme, as shown in Table 3). Moreover, the entire content of the Pedagogical Project was analyzed: syllabus and accountant's profile, competences and skills.

Therefore, this study contributes to the literature, as there is a lack of research on the matter within the scope of the investigated course (with the exception of Dallabona et al., 2012 and Gehlen, 2017). Its practical contributions are: i) discussing the insertion of the sustainability theme in higher education, considering that it is still a challenge (Holm et al., 2015); ii) obtaining directions so that the course under study carries out the provisions set forth in the PNEA and the DCNEA; iii) discussing the theme in order to ensure the quality of education, preventing a deprivation of freedom (Sen, 2000) and; iv) seeking social well-being, since accounting professionals work in organizations that are responsible for generating negative externalities.

2 THEORETICAL FRAMEWORK

2.1 Brazilian Legislation Addressing Sustainability in the Education Sphere

In 1999, the PNEA (Law No. 9.795/1999) was enacted; it defines Environmental Education as the process that builds social values, knowledge, skills, attitudes and competences aimed at the conservation of the environment, as the latter is essential for quality of life and achieving sustainability. Furthermore, the PNEA advocates that the environment is related to ecological, psychological, legal, political, social, economic, scientific, cultural and ethical aspects (Brasil, 1999). The so-called Environmental Education must be developed as an integrated educational practice at all levels of formal education, and must not be implemented as a specific discipline (Brasil, 1999).

Therefore, the PNEA encourages that higher education courses incorporate different contents, so that this broad perspective promotes the specific teaching of each course by considering sustainability issues. To this end, the practice of aspects such as transversality and interdisciplinarity must be involved. It is noteworthy that Environmental Education is one of the essential components or contents for the movement for Sustainable Development (Barbieri & Silva, 2011), that is, there are others, such as economic and cultural sustainability, fundamentals of the community, and strategic thinking (Hasselink et al., 2000).

By addressing specific issues, the LDNSB (Law No. 11.445, of January 5, 2007) points out the relevance of potable water, sanitary sewage, urban waste cleaning, and urban stormwater management. Therefore, this law calls for education being aimed at the need for users to save water, given the economic growth and urban disorganization (Britto, Lima, Heller & Cordeiro, 2012). Inadequate management and disposal of solid waste causes socioenvironmental impacts, according to the perspective provided by the PNRS (Law No. 12.305, of August 2, 2010). This policy mentions reverse logistics, that is, after final consumers use products, solid waste must return to their respective manufacturer/seller, which must properly dispose of them (Natume & Sant'Anna, 2011).

The PNEA led MEC to establish the DCNEA (Resolution No. 2, of June 15, 2012) in order to encourage a curricular approach focused on the theme by: i) relating the environmental dimension to social justice, human rights, health, work, consumption, ethnic, racial, gender, sexual diversity, fight against racism and forms of social injustice; ii) being integrated and transversal, continuous and permanent, in all academic activities; iii) deepening critical-reflective thinking by carrying out studies on the subject; iv) researching and adopting appropriate teaching instruments; and v) encouraging the creation of education institutions with sustainable structures (MEC, 2012).

Therefore, it is clear that there is a legally constituted environment that requires the inclusion of the sustainability theme in undergraduate courses. The next section deals specifically with the Accounting Sciences course, which is the focus of this study.

2.2 Components and Insertion of Sustainability in the Accounting Sciences Course

Advances in education with a focus on the sustainability theme represent a challenge for undergraduate courses, given that curriculum contents must be redesigned, so it is adopted gradually (Gonçalves-Dias et al., 2009). When highlighting the relevance of accounting education (object of this study) being focused on sustainability, Deegan (2017); Gray and Collison (2002) argue that this teaching is oftentimes associated with the economic aspect. Which means that the course is politicized and linked to dogmas of the national economy (Akrivou & Bradbury-Huang, 2015).

Boyce, Greer, Blair and Davids (2012); Sisaye (2013) agree on the relevance of the economic, environmental and social aspect, similarly to Elkington's Triple Bottom Line (TBL) (1997). This indicates a holistic approach to these aspects. As a consequence, conventional accounting is no longer appropriate when one seeks to achieve Sustainable Development (Gray, 2010). However, even if undergraduate Accounting Sciences courses already comprehend the economic aspect because it is inherent to the field, approaching the TBL becomes a challenge in the face of the environment and society domains (Boyce et al., 2012; Demajorovic & Silva, 2012).

In order to promote a sustainable discourse around business, it is up to education to address contents such as: socioenvironmental reports, practices to promote corporate sustainability (environmental, social and accountability) and academic experiments designed to provide articulated views of sustainability at the organizational level (Gray & Collison, 2002; Gray, 2010). According to Deegan's perception (2017), the search for profit maximization causes socioenvironmental damage; in this context, accounting needs to evolve, rather than being restricted to seeking compliance with the legislation for accountability to stakeholders.

Nationally, undergraduate Accounting Sciences courses are regulated by Resolution CNE/CES No. 10, of December 10, 2004 (MEC, 2004b). According to said resolution, the Pedagogical Projects of this course must have the following aspects: i) Professional profile expected for students as to competences and skills; ii) Curriculum components; iii) Student and course assessment systems; iv) Supervised curricular internship; v) Complementary activities; vi) Undergraduate thesis; vii) Academic regime; and viii) Other aspects that make the project consistent.

Prior to MEC's resolution that is in effect (2004b), there were other resolutions regulating the course. Regarding the sustainability theme, all guidelines (MEC, 2002; 2003; 2004a; 2004b) warn that the accountant's profile must be aimed at social responsibility. Likewise, the competences and skills fields define the relevance of ethics and citizenship (MEC, 2002; 2003; 2004a; 2004b). Therefore, there was not and there is no specific requirement in the guidelines of the Accounting Sciences course about the mandatory inclusion of the sustainability theme, but there is an encouragement towards addressing it through complementary activities, independent studies and elective content. When considering the current guideline (MEC, 2004b), Laffin (2012) asserts that the content of the course leaves aside real-world problems. That is, issues adjacent to the organization are not prioritized, but limited to technical training and mechanism (Laffin, 2012).

Course evaluation becomes a relevant practice in order to ensure the incorporation of the subject under study. In Brazil, the instrument for assessing on-site and remote undergraduate courses seeks the quality of the courses, at the time of authorization and renewal. However, requirements related to the sustainability theme are mentioned as of the year 2012 ("Anísio Teixeira" National Institute of Educational Studies and Research – INEP, 2012, p. 26; 2015, p. 42; 2015, p. 4; 2015, p. 6; 2017a, p. 11; 2017b, p. 11). The PNEA and the DCNEA are indirectly mentioned by INEP's assessment instruments, given that such legislations is part of the set of Environmental Education policies.

The way to insert the sustainability theme in education is debated. On the one hand, the literature argues that the superficial exposure of the topic in higher education contributes to the training of students. Benn and Dunphy (2009) conclude that a business program is successful in addressing the sustainability topic indirectly by means of socioenvironmental projects. Likewise, Fisher and McAdams (2015) argue that the mere exposure of undergraduate students to the issue is relevant to the training of individuals. Bennemann and Grzebieluckas (2016) indicate that students at *Universidade Estadual do Mato Grosso* have habits that contribute to reducing negative environmental impacts, due to the presence of a specific discipline in the course.

On the other hand, there are authors who defend interdisciplinarity in education by inserting the sustainability theme (as well as the PNEA and the DCNEA). Gomes et al. (2012) concluded that the national teaching model concerning socioenvironmental issues is fragmented. Araújo, Castro, Amaro, Ribeiro Filho and Lagioia (2008) state that the Accounting Sciences course is interrelated with other fields, as it is influenced by various social, political and scientific elements (interdisciplinarity). Still on how to insert the sustainability theme in education, Figueiró and Raufflet (2015) present six possible ways, focusing on business courses (Table 1).

Table 1
Ways of inserting the sustainability theme in business courses

Form of insertion:	Description
Monodisciplinary:	Sustainability is taught without links with other courses or disciplines.
Crossdisciplinary:	It represents examining a topic through insights from another field, usually resorting to some sustainability-related task during class.
Interdisciplinary:	It involves the integration of two or more disciplines to solve a specific problem that requires knowledge and experience from more than one field.
Multidisciplinary:	Different fields of knowledge are brought together for sustainability to be taught. In this case, each discipline maintains its own method and can be responsible for a different topic linked to the theme, which complement each other.
Transdisciplinary:	It aims to overcome the concept of academic discipline by including stakeholders, such as organizations, customers and citizens, as well as research and extension.
New course or program:	Sustainability is integrated through the development of a new course or program.

Source: Prepared by the authors, based on Figueiró and Raufflet (2015)

There is no consensus on the most effective form of insertion to achieve sustainability in accounting education (considering different opinions in the literature). However, it is noteworthy that the interdisciplinary and transversal

adoption of the sustainability theme is defended by this research; in this case, it refers to the fact of including economic, environmental and social aspects in teaching, research and extension (Brasil, 1999; Demajorovic & Silva, 2012; Lambrechts et al., 2013; Leal Filho et al., 2015). This stance is justified on the basis of the PNEA and the DCNEA, as it distances itself from the superficial approach to the subject. However, the present study has a documentary character, so it was not possible to identify the transversal form and the new-course or new-program form.

3 METHODOLOGICAL PROCEDURES

The present study fits into a qualitative, exploratory and documentary approach, as the examined variables were unknown, due to the scarcity of research investigating the sustainability theme in Accounting Sciences courses. The relevance of investigating undergraduate courses was considered, as they are responsible for training professionals for the market (Siqueira, 2005). Also, this research involved only public HEIs, since in this type of institution there is balance between the involvement of professors and the interest of students in learning (Lizote, et al., 2018).

In addition, the choice was to investigate Accounting Sciences courses in southern Brazil, as there is evidence that its states stand out for complying with the PNEA (Dallabona et al., 2012). However, only the State of Paraná was considered, for having a greater number of Accounting Sciences courses in public HEIs compared to the other states in its region (MEC, 2018). Thus, this research involved Accounting Sciences courses taught at public HEIs in the State of Paraná.

Through searches to identify the number of courses in the State, 19 courses were found in 10 HEIs (MEC, 2018). However, data collection was performed with those courses whose bureau or coordination could be contacted for the Pedagogical Projects, in force between 2002 and 2018, to be sent (because the guidelines of the Accounting Sciences course have been regulated by MEC since 2002). Contact was made during the month of March 2019, and courses were disregarded after three contact attempts (two by email and one by phone). Table 2 presents more details about the analyzed documents.

Table 2
Details of the analyzed documents

HEI – Course	Number of Pedagogical Projects (Year in which they were formulated)
UEL	4 (2002, 2004, 2009, 2017)
UEM – Maringá and Cianorte	3 (1992, 2006, 2015)
UTFPR	3 (1995, 2005, 2007)
UNIOESTE – Cascavel	5 (2003, 2006, 2007, 2009, 2016)
UNIOESTE – Marechal Cândido Rondon	3 (2003, 2006, 2015)
UNICENTRO - Irati and Prudentópolis	4 (2001, 2005, 2008, 2018)
TOTAL	22

Source: Prepared by the authors (2019), based on research data

Documents dated prior to 2002 were selected because they were valid within the predetermined period. With the qualitative materials collected, content analysis was used for consisting of a set of communication analysis techniques,

whose object is linguistics and documentation (Bardin, 2016). Table 3 brings more details about the content analysis stages.

Table 3
Content Analysis Stages

i) Pre-analysis
<p>1. Content selection: The material was chosen due to its content including information beyond a disciplinary nature. This analysis comprised the Pedagogical Projects in force between 2002 and 2018, due to the guidelines of the Accounting Sciences course being regulated since 2002 (MEC, 2002).</p> <p>2. Material preparation: It refers to access to Pedagogical Projects through contact made with the bureau or coordination of the courses.</p>
ii) Categorization
<p>CATEGORY: Incorporation of sustainability by the course (ISBC)</p> <p><u>Explanation for the choice:</u> There are several contents related to the sustainability theme in the business world. There is a variety of teaching program structures, as there is no consensus on which way of inserting sustainability is most effective for its promotion (Bennemann & Grzebieluckas, 2016; Benn & Dunphy, 2009; Brazil, 1999; Demajorovic & Silva, 2012; Fisher & McAdams, 2015; Gomes et al., 2012; Lambrechts et al., 2013; Leal Filho et al., 2015; MEC, 2012).</p>
iii) Coding
<p>UNITS OF ANALYSIS (UA) OF THE ISBC CATEGORY*</p> <p><u>Contents:</u> 1 - Long-term business strategy (Slomski et al., 2012); 2 - Environment; 3 - Ecosystem; 4 - Biodiversity; 5 - Climate changes ; 6 - Environmental degradation; 7 - Depletion of natural resources; 8 - Pollution (Brazil, 1999; Elkington, 1997; Hart & Milstein, 2004; MEC, 2012); 9 - Socioenvironmental impacts; 10 - Environmental management; 11 - Cost management (Slomski et al., 2012); 12 - Social; 13 - Social management; 14 - Equity; 15 - Social inequality; 16 - Cultural identity; 17 - Citizenship; 18 - Solidarity; 19 - Quality of life; 20 - Human well-being; 21- Poverty (Brazil, 1999; Deegan, 2017; Elkington, 1997; Hart & Milstein, 2004; MEC, 2004b; 2012); 22 - Corporate socioenvironmental responsibility; 23 - Sustainable business models; 24 - Waste generation (Hart & Milstein, 2004; Natume & Sant'Anna, 2011); 25 - Sustainable modes of production; 26 - Sustainable solutions (Hart & Milstein, 2004; MEC, 2012); 27 - Sustainable product; 28 - Product life cycle (Slomski et al., 2012); 29 - Reverse logistics (Natume & Sant' Anna, 2011); 30 - Alternative technologies and solutions (Hart & Milstein, 2004); 31 - Ethics; 32 - Abuse of power (Brazil, 1999; MEC, 2012); 33 - Consumption (MEC, 2012); 34 - Policies aimed at sustainability, PNRS, LDNSB (Britto et al., 2012; Natume & Sant'Anna, 2011); 35 - Local and global problems (Brazil, 1999); 36 - Socioenvironmental reports, GRI, Integrated Reporting (Gray, 2010; Gray & Collison, 2002).</p> <p><u>Forms of insertion:</u> 37 – Monodisciplinary; 38 – Crossdisciplinary; 39 – Interdisciplinary; 40 – Multidisciplinary; 41 – None (Araújo et al., 2008; Brazil, 1999; Figueiró & Raufflet, 2015; Kuzma et al., 2016; MEC, 2012).</p>
iv) Inference
<p>- It refers to the interpretation of data resulting from the previous stages.</p>
<p>* For similar units of analysis, their references are presented at the end of the group. Source: Prepared by the authors (2018), based on the authors cited in the Table</p>

It is noteworthy that two points were analyzed: i) the contents related to the sustainability theme; and ii) its form of insertion. As for the contents related to the sustainability theme (i), they were identified through criteria described by MEC's guidelines (2002; 2003; 2004a; 2004b), that is, in accordance with curricular contents (syllabus of the disciplines), accountant's profile and professional competences and skills. For the form of insertion (ii), the framework by Figueiró and Raufflet (2015) was used (Table 1). All these data are present in the Pedagogical Projects of the analyzed courses (since 2002).

4 ANALYSIS AND DISCUSSION OF RESULTS

Given the contents related to the sustainability theme, it was possible to identify certain similarities between the courses covered by this research. Given the 36 units of analysis (UAs) for the curricular contents (Table 3), and considering all analyzed Pedagogical Projects, the social aspect was predominant (60 frequencies – UAs # 12, 17 and 20) over the environmental aspect (19 frequencies – UAs # 2, 4 and 10). Contents about the socioenvironmental aspect totaled 8 frequencies (UAs # 9 and 22).

Such findings are congruent with the view of Benn and Dunphy (2009); Fisher and McAdams (2015); Bennemann and Grzebieluckas (2016) that the insertion of the sustainability theme takes place in a fragmented manner. It even contradicts the idea that environmental problems are closely related to social problems. Thus, the joint approach to the sustainability theme - TBL (Boyce et al., 2012; Elkington, 1997; Sisaye, 2013) is still deficient among the analyzed courses. However, because its adoption occurs gradually (Gonçalves-Dias et al., 2009), it is recommended that courses include the environmental aspect in their curriculum content; from that, the next step would be to include the socioenvironmental aspect jointly, or that is, the TBL approach in accounting disciplines.

There were 28 frequencies indicating the approach of strictly accounting-related contents, which do not deal directly with the sustainability theme (UA # 1 and UA # 11). Knowledge about Long-term business strategy (UA # 1) contributes to directing the logic of economic thinking when considering long-term impacts, which becomes relevant, given the need for awareness of individuals. Likewise, knowledge about Cost management (UA # 11) is relevant due to the need for socioenvironmental thinking to be included in the operational activities of organizations, taking into account the useful life of products (Slomski et al., 2012).

Even though disciplines in the cost field are traditionally part of the Accounting Sciences curriculum, there are Pedagogical Projects, among the analyzed courses, that did not address Cost management (UA # 11). On the one hand, accounting traditionalism (Boyce et al., 2012; Demajorovic & Silva, 2012; Laffin, 2012) was evidenced by the results, due to the absence of specific content on the sustainability theme (UAs # 3, 5, 6, 7, 8, 13, 14, 15, 18, 19, 21, 24 and 27). On the other hand, there was a lack of content (UAs # 23 and 29) that fit into discussions within the scope of accounting disciplines, in the sense of involving business and production management (Hart & Milstein, 2004; Natume & Sant'Anna, 2011).

Because the sustainability theme is characterized as interdisciplinary (Brasil, 1999; Demajorovic & Silva, 2012; Lambrechts et al., 2013; Leal Filho et al., 2015), due to the array of contents it requires (Hasselink et al., 2000), its direct and indirect definition, in the scope of the Accounting Sciences course, must be set with caution. In this regard, the courses can be based on the units of analysis of the ISBC category of this study, as it is characterized as a practical contribution.

Disciplines focused on Ethics (UA # 31) are present in all analyzed courses, and their purpose is to promote student awareness, even if they are not directly related to the sustainability topic. However, MEC's curricular guidelines (2002; 2003; 2004a; 2004b) do not determine this type of content (UA # 31 - Ethics), nor Citizenship (UA # 17), which, in its turn, was present in the courses (except in the

UTFPR case). Nonetheless, the accountant's competences and skills field, described by the curricular guidelines (MEC, 2002; 2003; 2004a; 2004b), requires the need for ethics and citizenship in the training of this professional. In addition, MEC (2002; 2003; 2004a; 2004b) calls for social responsibility in the profile of accountants, which was incorporated by the analyzed courses, since the Social aspect (UA # 12) was highlighted in 24 curricular contents.

Thus, the presence of these three units of analysis (UAs # 12, 17 and 31) indicates the existence of coercion arising from formal pressures on the part of MEC. Moreover, UAs # 2, 4, 9, 10, 16, 22, 25, 26 and 36 started to integrate the curriculum contents of the Pedagogical Projects from 2012, when considering that there was pressure from the DCNEA (MEC, 2012) and INEP (2012, p. 26) that require what had already been established by the PNEA (Brasil, 1999). This finding shows that specific legislation in the educational field is more effective for compliance with guidelines of this nature.

The TBL, in a holistic way (Boyce, et al., 2012; Elkington, 1997; Sisaye, 2013), was not present in accounting disciplines (economic aspect along with the socioenvironmental aspect), except in the UNICENTRO case, as of the year 2018. This signals a deficiency in addressing different contents together. In addition, even if the objective here is not to determine which course, among those analyzed, best approaches the sustainability theme, UNICENTRO's courses stood out due to the number of units of analysis identified in the 2018 Pedagogical Project. In fact, since 2005, they had already sought to comply with the PNEA by incorporating environmental disciplines, even in the absence of MEC's guidelines.

Another point evidenced by the curriculum contents was the lack of an approach to the Socioenvironmental reports content (UA # 36). Considering that organizations disclose information through socioenvironmental reports, there is a need to study this content, as well as financial reports. In the case of non-financial reports (such as those based on the guidelines of the Global Reporting Initiative - GRI and Integrated Reporting - IR), the decision on what will be disclosed is in the hands of managers and involves considerations that depend on the characteristics of each business.

As a way of synthesizing the discussed results, Table 4 presents the set of contents related to the sustainability theme identified in the investigated courses.

Table 4
Number of contents on the sustainability theme (by course and by project)

Course Content*	UEL		UNIOESTE (Cascavel)		UNIOESTE (Marechal Cândido R.)		UTFPR		UNICENTRO (Iratí and Prudentópolis)		UEM (Maringá and Cianorte)		To- tal
	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	
1 - Long-term business strategy			2003	-			1995	-	2001	1			7
			2006	-			2005	1	2005	1			
			2007	-			2007	1	2008	1			
			2009	-			-	-	2018	1			
			2016	1			-	-	-	-			
2 - Environment	2002	-	2003	-	2003	-	1995	-	2001	-	1992	-	14
	2004	-	2006	-	2006	-	2005	-	2005	1	2006	-	

Course Content*	UEL		UNIOESTE (Cascavel)		UNIOESTE (Marechal Cândido R.)		UTFPR		UNICENTRO (Irati and Prudentópolis)		UEM (Maringá and Cianorte)		To- tal
	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	
	2009	-	2007	-	2016	1	2007	1	2008	1	2015	1	
	2017	1	2009	-	-	-	-	-	2018	4	-	-	
	-	-	2016	4	-	-	-	-	-	-	-	-	
4 – Biodiversity									2001	-			1
									2005	-			
									2008	-			
									2018	1			
9 - Socioenvironme ntal impacts									2001	-			1
									2005	-			
									2008	-			
									2018	1			
10 - Environmental management			2003	-	2003	-			2001	-			4
			2006	-	2006	-			2005	-			
			2007	-	2016	1			2008	1			
			2009	-	-	-			2018	1			
			2016	1	-	-			-	-			
11 - Cost Management	2002	1	2003	1	2003	1	1995	1	2001	1	1992	1	21
	2004	1	2006	1	2006	1	2005	1	2005	1	2006	1	
	2009	1	2007	1	2016	1	2007	1	2008	1	2015	1	
	2017	1	2009	-	-	-	-	-	2018	1	-	-	
	-	-	2016	1	-	-	-	-	-	-	-	-	
12 – Social	2002	1	2003	1	2003	1	1995	1	2001	2	1992	2	24
	2004	1	2006	1	2006	1	2005	-	2005	-	2006	1	
	2009	-	2007	1	2016	1	2007	1	2008	1	2015	2	
	2017	-	2009	1	-	-	-	-	2018	3	-	-	
	-	-	2016	2	-	-	-	-	-	-	-	-	
16 - Cultural identity	2002	-	2003	-	2003	-	1995	-	2001	-			13
	2004	-	2006	-	2006	-	2005	1	2005	-			
	2009	-	2007	-	2016	2	2007	1	2008	1			
	2017	1	2009	-	-	-	-	-	2018	5			
	-	-	2016	2	-	-	-	-	-	-			
17 – Citizenship	2002	-	2003	2	2003	2			2001	-	1992	-	16
	2004	-	2006	2	2006	2			2005	-	2006	-	
	2009	-	2007	2	2016	2			2008	-	2015	1	
	2017	1	2009	1	-	-			2018	1	-	-	
	-	-	2016	-	-	-			-	-	-	-	
20 - Human well- being	2002	1	2003	-	2003	1	1995	1	2001	1	1992	1	20
	2004	1	2006	-	2006	1	2005	2	2005	1	2006	1	
	2009	1	2007	-	2016	1	2007	1	2008	1	2015	1	
	2017	1	2009	1	-	-	-	-	2018	1	-	-	
	-	-	2016	1	-	-	-	-	-	-	-	-	
	2002	-	2003	-	2003	-			2001	-			7
	2004	-	2006	-	2006	-			2005	1			

Course Content*	UEL		UNIOESTE (Cascavel)		UNIOESTE (Marechal Cândido R.)		UTFPR		UNICENTRO (Irati and Prudentópolis)		UEM (Maringá and Cianorte)		To- tal
	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	
22 – Corporate socioenvironmental responsibility	2009	-	2007	-	2016	1			2008	1			
	2017	1	2009	-	-	-			2018	2			
	-	-	2016	1	-	-			-	-			
25 - Sustainable modes of production									2001	-			1
									2005	-			
									2008	-			
									2018	1			
26 - Sustainable solutions									2001	-			1
									2005	-			
									2008	-			
									2018	1			
28 - Product life cycle	2002	-											1
	2004	-											
	2009	1											
	2017	-											
30 - Alternative technologies and solutions	2002	-					1995	-	2001	1	1992	-	5
	2004	-					2005	-	2005	-	2006	1	
	2009	1					2007	1	2008	-	2015	1	
	2017	-					-	-	2018	-	-	-	
31 – Ethics	2002	2	2003	1	2003	1	1995	1	2001	2	1992	1	25
	2004	1	2006	1	2006	1	2005	1	2005	1	2006	1	
	2009	1	2007	1	2016	1	2007	1	2008	1	2015	1	
	2017	1	2009	1	-	-	-	-	2018	1	-	-	
	-	-	2016	1	-	-	-	-	-	-	-	-	
32 - Abuse of power			2003	-			1995	1	2001	1			6
			2006	-			2005	-	2005	1			
			2007	-			2007	-	2008	1			
			2009	-			-	-	2018	-			
			2016	2			-	-	-	-			
33 – Consumption	2002	1							2001	-			4
	2004	-							2005	1			
	2009	-							2008	1			
	2017	-							2018	1			
34 - Policies aimed at sustainability, PNRS, LDNSB									2001	-			4
									2005	1			
									2008	1			
									2018	2			
35 - Local and global problems	2002	1	2003	-									4
	2004	1	2006	-									
	2009	-	2007	-									
	2017	-	2009	-									
	-	-	2016	2									
		2003	-	2003	-				2001	-			3

Course Content*	UEL		UNIOESTE (Cascavel)		UNIOESTE (Marechal Cândido R.)		UTFPR		UNICENTRO (Irati and Prudentópolis)		UEM (Maringá and Cianorte)		To- tal
	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	Year	N.	
36 - Socioenvironme ntal reports, GRI, Integrated Reporting			2006	-	2006	-			2005	-			
			2007	-	2016	1			2008	-			
			2009	-	-	-			2018	1			
			2016	1	-	-			-	-			

*Unidentified units of analysis (content) were not shown in the Table.

Source: Prepared by the authors (2019), based on research data

All courses (except the UTFPR case) comply with the requirement of the accounting professional's profile to be social-oriented (UA # 12). Furthermore, only UNIOESTE's courses did not focus on Ethics (UA # 31) in competences and skills. In this same field, UNIOESTE's courses did not comply with Citizenship (UA # 17), just as UEM's courses (MEC, 2002; 2003; 2004a; 2004b).

In fact, the accountant's profile, competences and skills fields, present in the Pedagogical Projects of the analyzed Accounting Sciences courses, do not evidence their real intention regarding the curricular contents of the syllabuses (Table 4). In other words, the presentation of the course (profile, competences and skills) to future students/community and to the actors in the academic field is flawed. This was due to the absence of explanations present in the profile, competences and skills fields, about contents that are present in syllabuses and vice versa.

Table 5 shows the number of UAs related to the sustainability theme mentioned in the accountant's profile, competences and skills fields.

Table 5

Number of UAs related to the theme, present in: profile, skills and abilities

	UEL				UNIOESTE (Cascavel)					UNIOESTE (Marechal Cândido Rondon)		
	2002	2004	2009	2017	2003	2006	2007	2009	2016	2003	2006	2015
Accountant's profile												
UA*	2002	2004	2009	2017	2003	2006	2007	2009	2016	2003	2006	2015
12	3	3	2	2	2	2	2	3	3	2	2	3
16					1	1	1	1	1	1	1	1
31	-	-	1	1	-	-	-	-	1			
35	-	-	1	1								
Accountant's competences and skills												
UA*	2002	2004	2009	2017	2003	2006	2007	2009	2016	2003	2006	2015
12	1	1	3	1	4	7	7	7	6	4	7	7
16					2	2	2	2	1	2	2	2
17	-	-	1	1								
20												
31	1	2	2	1								
	UTFPR				UNICENTRO (Itati and Prudentópolis)					UEM (Maringá and Cianorte)		
	Accountant's profile											
UA*	1995	2005	2007	2001	2005	2008	2018	1992	2006	2015		
12				1	-	-	1	-	1	1		
16												
31	2	1	1	1	1	1	-	-	1	1		
Accountant's competences and skills												
UA*	1995	2005	2007	2001	2005	2008	2018	1992	2006	2015		
12				-	-	-	1	-	1	1		
16				-	-	-	1	-	1	1		
17	-	1	1	-	1	1	-					
20	-	-	1									
31	-	1	2	-	1	1	-	-	1	1		
36				-	-	-	1					

*Unidentified units of analysis (content) were not shown in the Table.

Source: Prepared by the authors (2019), based on research data

In all courses (all Pedagogical Projects), the Crossdisciplinary form of insertion stood out, which is congruent with this research finding that the approach to content occurs in a fragmented manner. This form of insertion is refuted by the consulted literature, given the superficiality it provides, that is, there is no integration between disciplinary contents (Araújo et al., 2008; Gomes et al., 2012). In this sense, it was found that the sustainability theme has been inserted in the investigated courses with a secondary character, without the due importance given by the legal framework, which, in its turn, encourages the insertion in an Interdisciplinary and Transversal manner (Brasil, 1999; MEC, 2012).

Both the Interdisciplinary form and the Multidisciplinary form were more frequent in current Pedagogical Projects compared to documents from previous years. This fact indicates that there was some progress in the form of insertion of the sustainability theme (by addressing others). This advance happened concurrently with the fact that the instruments for authorization and recognition of undergraduate courses in the country (INEP, 2012; 2015; 2017a; 2017b) assigned greater importance to sustainability, in view of the PNEA (Brazil, 1999) and the DCNEA (MEC, 2012).

The occurrence of the Monodisciplinary form highlighted UA 31 - Ethics and UA 20 - Human well-being, which means that they are contents addressed in isolation, without any links with other types. Therefore, this is harmful to the teaching of the sustainability theme, and the Monodisciplinary form remains in force in the UTFPR case (2007 Pedagogical Project) and in the UEM case (2015 Pedagogical Project). For this reason, the elimination of the Monodisciplinary form is suggested, for being a form of insertion that isolates the theme, without creating links with other contents.

Only the UTFPR and UEL cases comply with the PNEA (Brasil, 1999), in the sense of not including specific disciplines on the sustainability theme in their current Pedagogical Projects (2017 and 2007, respectively). Even though compliance with the PNEA is a paradigm of a normative nature, it is worth noting that failing to comply with what was established by this legislation leads to fragmented knowledge about the subject (Araújo et al., 2008; Gomes et al., 2012), as certain contents are concentrated in specific disciplines.

To summarize the results discussed, Table 6 shows the number of curriculum contents in accordance with their form of insertion.

Table 6

Number of curricular contents on the subject: in accordance with their form of insertion

	UEL				UNIOESTE (Cascavel)					UNIOESTE (Marechal Cândido R.)		
	2002	2004	2009	2017	2003	2006	2007	2009	2016	2003	2006	2015
UA*												
37		1	1		1	1	1	1		1	1	
38	5	4	3	8	2	2	2	3	7	3	3	8
39	1								4			2
40					1	1	1		1	1	1	
	UTFPR			UNICENTRO (Irati and Prudentópolis)				UEM (Maringá and Cianorte)				
	1995	2005	2007	2001	2005	2008	2018	1992	2006	2015		
UA*												
37	2	1	1		1			1	1	1		
38	3	3	6	5	8	12	12	2	4	5		
39				1			5	1		1		
40			1	1	1							

*Unidentified units of analysis (content) were not shown in the Table.

Source: Prepared by the authors (2019), based on research data

This study advances with discussions about the contents of and how to insert the sustainability theme in Accounting Sciences courses, since it does not focus only on detecting specific disciplines, considering that the approach to the sustainability topic must be interdisciplinary. However, the results proved to be contrary to both international research (Doh & Tashman, 2014; Fisher & Bonn, 2011; Larrán & Andrades, 2015) and national research (Dallabona et al., 2012; Starosky Filho & Rausch, 2012). This assertion is justified by the fact that all investigated courses somehow addressed content on the subject under study (absence of UA # 41), just as over time (since 2002), the courses have advanced with the insertion gradually.

Even though the courses have moved forward by taking into account content on the sustainability theme, there is still a need for evolution, as the current versions of the Pedagogical Projects in force have insufficient content. Such insight is based on the theoretical and legal framework regarding sustainability in higher education. Thus, the results of this research are expected foster discussions within the scope of undergraduate Accounting Sciences courses, in an attempt to help define the contents of the disciplines. The units of analysis in Table 3 show how the theme under study is diverse and permeates discussions that go beyond technicism. Likewise, the research results indicate that there are difficulties in putting into practice what was determined by the legal framework. In other words, considering sustainability in higher education remains a challenge, even more than 20 years after the enactment of the PNEA.

5 CONCLUSIONS

This research aimed to analyze the ways in which undergraduate Accounting Sciences courses in Paraná's public universities have inserted the sustainability theme in their Pedagogical Projects since 2002. This objective was achieved through documentary research based on Pedagogical Projects in force in this period, using Bardin's content analysis (2016).

It is concluded that there was an increase in the consideration of contents related to the sustainability theme, so the investigated courses have evolved. Moreover, the Crossdisciplinary form of insertion was predominant, with greater coverage of the social aspect, suggesting that sustainability is inserted with a secondary character (disconnection between the socioenvironmental and the economic domains), without the due importance given by the legal framework. However, the evolution was detected as of the year 2012 (influenced by INEP, 2012) and through MEC's curricular guidelines (2002; 2003; 2004a; 2004b), which do not determine content on the subject, but evidence its relevance by means of the accountant's profile, competences and skills fields.

Based on this research, it seems that the adoption of the sustainability theme in the investigated courses is still maturing, which is justified by the complexity that the theme demands, considering that the adoption of the theme does not simply involve the socioenvironmental aspect, but its connection with the economic aspect. In this case, it was evident that, even if the sustainability theme is established by force of law, its consideration depends on the actors. Thus, the conception that the Accounting Sciences course is geared towards technicism will be perpetuated in the future, in the sense that today's students will be professionals integrating organizations, which aim at profit. Breaking this paradigm is a concern that encompasses a network of actors (professors, administrative departments, MEC, etc.).

As for the future possibility that the sustainability theme becomes mandatory in the specific scope of undergraduate Accounting Sciences courses, it appears that this fact has a normative and regulatory character. However, the possibility of the coercive character actually leading to a change in the courses is questioned, as this may represent a ceremonial adoption, rather than an effective change. Such conceptions were confirmed, as the PNEA has been in force since 1999, that is, it was established more than 20 years ago; even so, the investigated courses did

not make an effort to comply with it. In this case, specific legislation proved to be more effective, indicating the need to assign greater importance to the sustainability matter in the context of higher education.

Finally, the actual question is whether the 'perfect world' of the TBL in accountant training will come true. The courses must be responsible for training professionals with greater capacity to make conscious decisions when it comes to sustainability in the business sphere. Yet, the efforts made to prepare the present research are intended to advance the discussions about the topic under study. Therefore, in the future, researchers will be able to answer the question asked, supported by scientific research that seeks to reach the critical aspect, deviating from theoretical discourses and from the idea that the adoption of specific and isolated disciplines solves the problem.

In this way, this research argues that the attempt to insert the sustainability theme in Accounting Sciences courses should be based on transdisciplinarity and interdisciplinarity, given that this does not mean the elimination of disciplines but, instead, it refers to the articulation between them and possible connections with society. Further research should start from this conception by conducting more in-depth studies involving interviews, surveys, action research, participant research, etc.

This study contributes to the literature by supplying it, given the lack of research on the subject, and by offering insights for future studies. The practical contributions of this investigation derive from: i) pioneer spirit, when discussing the insertion of the theme in Accounting Sciences courses, given that it is a challenge, as this research indicated that its adoption is gradual and takes place in a secondary manner; ii) recommendations, present in the results section and in the conclusion, to MEC, HEIs and professors, in order to comply with the PNEA and the DCNEA, which were the basis of this research; and iii) discussion of a topic that is of interest to college students, contributing to eliminating deprivations of freedom with regard to the absence of the sustainability theme in accountant education. Social contributions of the study, even if indirectly, can be observed in the discussion about the search for the well-being of society, as organizations generate negative externalities.

Some suggestions for future studies include: i) presence of the theme in postgraduate Accounting Sciences courses (*Stricto sensu*), due to the lack of understanding about the TBL for composing curricular contents; ii) investigating details about extension projects focused on the theme, and the focus would be on providing contributions to encourage transdisciplinarity; and iii) if the market considers the sustainability theme relevant, in this case, investigations should be aimed at organizations and the labor market, in order to indicate to MEC and HEI professors what the role of the accountant in this theme is; iv) factors that influence the adoption of the theme in the courses, in addition to the detected coercive factor. Additionally, certain Pedagogical Projects fail to elucidate the name of existing elective disciplines. Therefore, future studies should collect data from different sources (data triangulation).

The choice for qualitative research presupposes limitations, given the subjectivity factor. Although it is usual for this type of research, one limitation is not being able to generalize the results. Another limitation refers to the choice of the

analyzed documents, comprehending the period between 2002 and 2018, and to the investigated theme being little explored and lacking previous studies.

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AUTHORS' CONTRIBUTIONS

Contributions	Anne Carolina dos Santos	Marguit Neumann	Kerla Mattiello
1. Idealization and conception of the research subject and theme	✓	✓	
2. Definition of the research problem	✓	✓	✓
3. Development of Theoretical Platform	✓	✓	
4. Design of the research methodological approach	✓	✓	
5. Data collection	✓		✓
6. Analyses and interpretations of collected data	✓	✓	✓
7. Research conclusions	✓		
8. Critical review of the manuscript	✓	✓	✓
9. Final writing of the manuscript, according to the rules established by the Journal.	✓		
10. Research supervision		✓	✓