

Enhancing sustainability education in the accounting curriculum: An effective learning strategy

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Abstract

Purpose: This paper examines the embedding of sustainability courses in the accounting curriculum by using the Delta Business School (DBS)¹ in New Zealand as an example. The focus of the paper is an effective learning strategy on sustainability education, which other business schools could follow using this approach.

Design/Methodology: Each course's published outline was subjected to an in-depth analysis. Semi-structured interviews were used to gather information from the course controllers and students.

Findings: The findings revealed that while some courses are considered stand-alone sustainability courses, others incorporate a technical focus on accounting as required by the professional accounting bodies: Chartered Accountants Australia and New Zealand, CPA (Australia) and ACCA.

Research Limitations: The research is limited to sustainability education content at a single university.

Practical Implications: Students at tertiary education institutions, who will be future managers, are dependent on business schools to teach them the importance of sustainability.

Social Implications: Sustainability education in accounting could be instrumental in transforming the nature and role of the accountant in society.

Originality/Value: The paper contributes to the discussion required to understand how sustainability education is embedded within the accounting curriculum and the perceptions of lecturers and students with regard to sustainability education.

Key words: accounting education, legitimacy theory, sustainability, critical thinking.

¹ Used as a pseudonym

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1. Introduction

The literature on sustainability accounting is well developed (Gray, 2019), but little is known about how it is incorporated into our accounting classrooms. Sustainability is defined in the 1987 ‘Brundtland Report’ as development that meets the needs of the present without compromising the ability of future generations to meet their own needs (World Commission Environment and Development, 1987). While environmental and triple bottom line accounting (social, environment; and economic dimensions) have emerged (Fernandez-Manzanal et al., 2015), accountants have begun to consider the potential of new reporting models for business, which include non-financial information (Mistry et al., 2014). The New Zealand Parliamentary Commissioner for the Environment (2004) identified that sustainability education, as part of university education, is important. Professional accounting associations in New Zealand such as Chartered Accountants Australia and New Zealand (CAANZ), ACCA and CPA (Australia) have also encouraged sustainability education. However, the predominantly technical focus of professional accounting bodies leads to the professional degree program being preoccupied with technical subjects.

The incorporation of the notion of sustainability into the accounting curriculum is a move towards the goal of “sustainable development – economic development, social development, and environmental protection – at the local, national, regional and global levels” (Reid and Petocz, 2006, p.119). Themes explored within sustainability education research include analysis of the objectives of social and environmental accounting education and the broader goals of accounting in society (Fernandez-Manzanal et al., 2015); teaching methods (Bebbington and Thomson, 2001); social-environment accounting topics and the content of courses (Sundin and Wainwright, 2010); and the extent to which sustainability education in accounting has been included in university degrees (Gibson, 1997). Al-Hazaima et al., (2021) emphasise the need for commitment to sustainability education. As most sustainability courses do not have a long track record, we still know little about how accounting and managers can be educated effectively to become change agents of corporate sustainability (Hesselbarth and Schaltegger, 2014).

While there is an important literature that addresses sustainability and accounting education, only a small proportion of these papers directly address the deep challenges that sustainability presents in classroom and more broadly (Gray, 2013). The university’s business school in which this case study is set has triple

accreditations with AACSB, AMBA and EQUIS. These bodies support sustainability education. The school's accounting department has taken a proactive role with sustainability education; it is accredited with ACCA, CPA (Australia) and CAANZ, which support sustainability research. The purpose of this paper is to examine the sustainability courses in the accounting curriculum at the Delta Business School (DBS) in New Zealand. How students and lecturers perceive sustainability education and the learning strategy is also examined. DBS professes a deep commitment to sustainable business practices. Its mission states, "at the heart of our business is transformation - our purpose is to inspire the world with fresh understandings of sustainable success" (DBS website, downloaded 2 August, 2019). DBS offers many courses involving 'sustainability' in its accounting curriculum, but all offerings are provided by individual lecturers, rather than in a coordinated way. The research questions being asked are:

- What is the extent of the 'sustainability' embedded within the accounting curriculum at DBS?
- What lessons on sustainability education might be available to other higher education institutions?

The paper is organised as follows: Section 2 reviews the literature on sustainability education. Section 3 disseminates theoretical framework for the study. Section 4 outlines the research methods. Section 5 presents the results. Section 6 discusses the results of the study, and Section 7 concludes the paper.

2. The Need for Sustainability Education

With the growth in awareness of social and environmental issues during the 1990s, it was inevitable that attention would turn to educational processes and how these could contribute to changes in environmental attitudes (Gray, 2019). Thomas (2004) notes that "...clearly there is a rationale and need for graduates to develop 'literacy' in sustainability as part of their tertiary education..." (p.33). Education providers need to provide students with quality and specialised sustainability-related programmes, which ensure students behave ethically and responsibly towards society in the future (Kagawa, 2007). Sustainability education in accounting can also be provided as a stand-alone subject, specifically focusing on teaching and learning sustainability (Sefcik et al., 1997) either as a core subject or an elective subject in an accounting major (Doorasamy, 2012). Stand-alone sustainability accounting classes in accounting present teaching and learning benefits. They enable a learning space for students to explore social, environmental and economic issues that may not be exposed in a typical business degree.

An alternative approach to stand-alone sustainability education in accounting involves incorporating sustainability research into the conventional subject content (Brown and Dillard, 2019). However, the incorporation of sustainability education into accounting subjects often involves only one to two weeks on sustainability topics, with the majority of the course's content largely unchanged (Sundin and Wainwright, 2010).

The professional accounting bodies are also supporting sustainability research. According to Hazelton and Haigh (2010), a driver of sustainability in accounting services is the professional accountancy bodies who provide support for change within the accounting profession.

Concerns with incorporation of sustainability education into conventional accounting subjects

Given the time pressure faced by most lecturers, they may be unwilling to exert themselves to incorporate sustainability considerations into their materials (Sundin and Wainwright, 2010). Mathews (2001) notes that leading students into a social and/or environmental program is a challenge when their preparation has been in “technical, value-free accounting problems and procedures”. Their accounting theory is defined as “what the standard setters have agreed it is” (p.338-339). Much of accounting education provides shallow learning; deeper learning, on the other hand, embodies critical thinking (Sharma, 2013). Sundin and Wainwright (2010) note that conventional accounting subjects are often over-reliant on the neo-classical economics paradigm.

Entry into a professional accounting programme is predicated on the completion of an accredited degree that covers specific competence areas (charteredaccountantsanz.com; cpaaustralia.com.au, accessed 7 October 2021). The accredited courses for both CAANZ and CPA Australia for the Bachelor's and Master's programmes in New Zealand universities mainly comprise technical subjects such as financial accounting, accounting systems and analytics, management accounting, auditing, taxation, business laws, economics, quantitative methods and ethics ([chartered accountantsanz.com](http://charteredaccountantsanz.com), cpaustralia.com.au, accessed 7 October, 2021). The accounting degree program is already overwhelmed with technical papers imposed by the professional bodies (Hazelton and Haigh, 2010). This leaves a very small number of papers, possibly one or two, to be chosen by students as elective courses.

3. Theoretical Framework

The study uses legitimacy theory and institutional theory as a framework to investigate the extent of ‘sustainability’ embedded within the accounting curriculum at DBS and the deep challenges that sustainability presents in the classroom. Suchman (1995, p.574) defined legitimacy as a “generalised perception or assumption that the actions of an entity are desirable, proper or appropriate within some socially constructed systems of norms, values and beliefs”.

Universities are considered to be legitimate when their organisational practices and curriculum are perceived to satisfy their external stakeholders’ expectations. Basically, legitimacy theory adopts a central assumption that the maintenance of effective education requires management to ensure that their institutions operate in conformance with community expectations. Those expectations include the provision of a broad-based education such as sustainability, which the community demands, and therefore the institution acquires the status of being legitimate. Legitimacy theory is related to institutional theory as organisations tend to be isomorphic in order to remain legitimate to their stakeholders. From the institutional theory perspective, DiMaggio and Powell (1983) suggest that institutional pressure can create organisations that look the same and operate in similar ways. The concept of isomorphism (DiMaggio and Powell, 1983) provides a lens to explain the embedding of sustainability within an accounting curriculum that forces New Zealand Business Schools to resemble each other in the same institutional environment. DiMaggio and Powell (1983) classify institutional isomorphism into three types: normative, coercive and mimetic. External factors, especially coercive powers such as managerial accountability demands, can exert pressure on embedding sustainability into an accounting curriculum.

Normative isomorphism stems from professional accounting bodies such as CAANZ and CPA (Australia). These professional accounting organisations impose accounting curricula on universities to enable students to meet their professional entry requirements. Mimetic isomorphism occurs when universities mimic each other for the purposes of conformity and legitimacy (DiMaggio and Powell, 1983). It tends to be invoked when organisations are faced with uncertainty and challenges in their institutional environment.

4. Research Methods

It was decided to interview lecturers and students who were most intimately involved with the sustainability courses offered at DBS. Interviews were carried out in 2019 with ten lecturers (course convenors); 6 were

male and 4 female. Each interview lasted for about an hour. Interview recordings were transcribed and labelled with a pseudonym to avoid identification of participants.

Kearins and Springett (2003) describe two forms of sustainability: weak and strong. This paper categorises the accounting courses at DBS as providing either a strong or weak sustainability message. Courses that provide many hours of sustainability teaching, encourage critical thinking skills, and employ assessments of sustainability knowledge that require higher cognitive skills such as ‘analysis, synthesis and evaluation’ are classed as strong. Other ‘sustainability’ courses are classed as weak; these contain some measure of sustainability education through the inclusion of 1-2 weeks of relevant material, but with low levels of assessment of these materials (Sundin and Wainwright, 2010). The classification of courses that include sustainability education applied three criteria² :

1. The number of hours of sustainability material taught.
2. The level of assessment of sustainability content
3. Whether the lecturer and the students used critical thinking skills relating to sustainability education in the classroom.

The three criteria were given equal weighting in determining whether the courses were weak or strong in sustainability. The course convenors were asked to indicate on a Likert scale from 1 (very weak) to 10 (very strong) the sustainability commitment of their own course using the three criteria above. An average score was obtained from all three criteria for each course. If a course obtained a mean score of 1 to 5, it was classified as weak, while a score of 6-10 was classified as presenting a strong sustainability message.

The interview questions enabled us to capture the perceptions of faculty on sustainability education; an area outside the conventional technical skills content of accounting education. The interview questions will be made available on request from the authors. The interview questions were open-ended, designed to let the interviewees speak freely. Follow-up interviews were carried out with those lecturers who did not include sustainability in their teaching and the reasons for the non-inclusion of sustainability were investigated. The courses involving sustainability content are:

- 101: Introduction to Accounting;
- 209: Accounting and Managerial Decision Making;
- 221: Ethics and Sustainability;
- 231: Accounting for Organisational Control;
- 301/401: Accounting Theory;
- 331/431: Management Accounting;

² The convenors were told that if their course contained a substantial number of hours of sustainability and used higher level assessment on sustainability, and if they used critical thinking skills in sustainability teaching, then their course was deemed to be a strong sustainability course. Otherwise it was a weak sustainability course.

- 407: Accounting for Sustainability;
- 412/512: Organisations and Society;
- 507: Accounting, Sustainability and a Changing Environment;
- 531: Advanced Management Accounting.

Table 1 provides a summary analysis of DBS’s Accounting courses featuring sustainability. Each course was rated for the strength of its sustainability commitment. The course outlines were obtained from the course convenors for the strong sustainability courses in accounting. The information from the course outlines was used to categorise the course contents in three dimensions: economic, social and environmental (see Tables 3-6).

Semi-structured interviews with 31 randomly selected accounting students were conducted. These students were selected randomly outside lecture theatres and computer labs.. The students selected were in their second to fourth years of studies. The questions asked related to their perceptions of education for sustainability in the accounting curriculum; and what strengths and weaknesses were attached to sustainability education. They were asked not to consider each individual course but to report how they perceived the school’s offerings as a whole. These students had spent at least one and a half years studying accounting. The interview data, from both the lecturers and students, was analysed for common themes (see Sharma et al., 2010). The data were analysed by preparing tables listing issues frequently raised in interviews in order to answer the research question concerning how sustainability is embedded within accounting curriculum at DBS.

Insert Table 1 about here.

5.0 – Findings

Other universities in New Zealand have made some progress towards integrating sustainability education into the accounting papers, but are still lagging behind DBS. Table 2, adapted from Botes et al. (2014) provides some evidence of sustainability education in New Zealand university business and accounting studies.

Insert Table 2 about here.

Table 2 shows that New Zealand universities have made progress towards integrating sustainability education into their accounting papers. However, the finding that 75 and 50 percent of the universities do not offer separate sustainability accounting papers at the undergraduate and postgraduate levels, respectively, indicates a lack of priority in this area in higher education (Botes

et al., 2014). DBS offers learning strategies that are effective at disseminating education for sustainable development.

5.1 – Curriculum and assessment in sustainability courses

DBS offers 10 courses on sustainability in the accounting curriculum. Eight of these courses are offered at undergraduate level, while two are offered at Master's level. Of the eight courses offered at undergraduate level, five are required courses for the degree of Bachelor of Business Studies in Accounting. Table 1 provides a summary of DBS's Accounting courses featuring sustainability. Out of the 10 courses offered, 6 are weakly embedded with sustainability while 4 are strongly embedded. Tables 3-6 apply this analytical framework to each of the four accounting courses that provide a major influence on the understanding of sustainability. Other courses, featured later, have a lesser commitment to sustainability education.

Each of the accounting sustainability courses addresses the three realms of sustainability. Two undergraduate courses espouse a stronger form of sustainability while the other six espouse a weaker form of sustainability. Two graduate courses offer a strong form of sustainability while the other offers a weak form of sustainability (see Table 1).

5.1.1 Strong incorporation of sustainability

The first four courses shown below was created to provide a major influence on the understanding of sustainability. The four courses in which sustainability is strongly embedded are: (1) 221 Business Law, Ethics, Sustainability and the Treaty of Waitangi; (2) 407 Accounting for Sustainability; (3) 412/512 Organisation and Society; and (4) 507 Accounting, Sustainability and a Changing Environment. Other courses, featured later, have a lesser commitment to sustainability education.

The core course Business Law, Ethics, Sustainability and the Treaty of Waitangi (221) has a strong form of sustainability within the accounting curriculum. This course is required by the Chartered Accountants Australia and New Zealand (CAANZ) for entry into the Chartered Accountancy (CA) program. The course convener stated:

We require critical thinking in our sustainability assessments, particularly essay writings in relation to ethical issues and sustainability. We cover all pillars of the triple bottom line focus of sustainability. The students are proactive in tutorial discussions in relation to sustainability.

As part of the accredited course for the professional organisation, students are expected to write an essay on sustainability for the paper. The paper convenor also has a reading list, which draws on various refereed journal articles on sustainability that the students are expected to read.

A student commented on this course:

I learnt a lot from the essay writing on sustainability which I did not have to do for other courses.

Students are engaged with critical thinking skills in relation to their sustainability assessments. A critical thinking approach to teaching and assessment in sustainability education is being encouraged by the course convener. The course scored a mean of 6 out of 10 in terms of sustainability education.

Include Table 3 about here.

Accounting for Sustainability (407) is a stand-alone fourth-year sustainability course not required by CAANZ for entry into the CA program. It is an elective course for undergraduate students. The course lecturer stated:

The students are exposed to critical skills in sustainability. They have to critique a variety of literature on environmental accounting and societal issues, and how corporations respond to pressure from the public.

The lecturer commented that for many of the students in the course, the presentation of different perspectives within the topics had been a challenging experience. Some students had an enriching experience as their prior accounting studies had been technical and uncritical.

A student from this course commented:

Writing a 3,000 word essay on sustainability was a challenge. Interestingly, critical thinking skill on sustainability was a challenge as well.

Critical analysis of literature on sustainability is encouraged in this course. The Accounting for Sustainability course had a mean score of 7, so the content level of sustainability is strong.

Table 4 about here.

The course titled Organisation and Society (412/512) is an elective fourth- and fifth-year course not required by CAANZ. The course involves the study of changes in organisations and society and the role of education in developing good citizens. The course convener stated:

We encourage critical thinking in relation to sustainability in this course. Students are encouraged to think outside the box.

Students are expected to question current business practices and suggest changes. In the classroom, some students present views in favour of a sustainability issue while another group presents opposition to the issue. This involves critical thinking on sustainability issues.

The course convener for 'Organisation and Society' mentioned that there are at least five visitors from large organisations who come to present to the class. During these visits, students are encouraged to ask the presenters questions about sustainable business practices to gain an understanding of how they fit within day-to-day business practices. Students are required to study sustainability-related literature before each lecture.

The level of content of sustainability in these two courses is strong. They scored a mean of 9 out of 10 on the level of sustainability. Students are not viewed just as individuals to be taught, but as members of society who need to understand what role they might occupy in creating a better future. Students' feedback on this course has suggested that students are receptive to sustainability education.

Take in Table 5 about here.

Accounting, Sustainability and a Changing Environment (507) is a fifth year postgraduate course. It is not required by CAANZ, so students who study this course can be regarded as being interested in sustainability issues. This course has strong sustainability content and scored a mean of 8 out of 10. According to the course convener,

Each week students present a critical aspect of a recently published research paper on sustainability. I encourage all students to be involved in the discussion of the research paper. Up to 10% of students' grade is awarded based on their contribution to class.

From the above evidence, it can be seen that critical thinking is encouraged in the 'Accounting, Sustainability and a Changing Environment' course. The students are encouraged to offer their own solutions to current problems.

The course convener expressed in positive terms the 'challenging' nature of the material that facilitates the depth of understanding in the course. The course encourages an open dialogue on sustainability issues, with students actively getting involved. The students from this course also expressed support for sustainability education. They made the following responses:

It is important to consider the impact corporate operations have on the environment.

Sustainability is likely to become an essential focus of contemporary and future business.

Table 6 about here.

Strong forms of sustainability accounting education are evident at DBS, which other business schools internationally need to emulate. Through sustainability education, the business leaders of tomorrow will ensure their businesses are seen to behave as responsible corporate citizens (Sharma and Kelly, 2014).

Through strong forms of sustainability accounting, future accountants will be prepared to take on new and expanded roles to support organisations in charting a sustainable path

5.1.2 Weak incorporation of sustainability

Accounting for Management (101) is a first-year course required by CAANZ for entry into the CA program. It is compulsory for students studying for DBS's standard undergraduate business degrees. There is potential to introduce over 300 students each semester to the notion of sustainability. One lecture and one tutorial during the semester are devoted to sustainability (a total of two hours in a 48 hour course). The lecturer stated

Students are quite reluctant to get involved in discussion of sustainability. As a first year student at university, they seem to be shy.

The course convenor uses Lawrence et al.'s (2012) textbook, titled *Accounting at Work: In Business and Society* to teach sustainability. A chapter in this book is devoted to accounting for sustainability. The tutorial questions are drawn from this book chapter. The course does not encourage any critical discussion of sustainability. It earned 3 out of 10 on sustainability and is a weak sustainability course. The students are not proactive in contributing towards sustainability debate. The focus of this course seems to be more on the technical aspects of accounting such as basic financial statements, ratio analysis and technical aspects of management accounting.

Accounting and Managerial Decision Making (209) is a second-year elective introductory accounting course designed for students studying towards a graduate diploma. It is designed as a foundation course to help students understand the technical aspects of accounting in the business environment. The lecturer commented:

This course has included some aspects of sustainability; there are two weeks of lectures (four hours in total) and two tutorials of one hour that cover sustainability issues.

This course also uses the textbook by Lawrence et al., (2012) to teach sustainability. A chapter in the book is devoted to sustainability. The tutorial questions on sustainability are drawn from the book chapter. The course scored a mean of 4 out of 10 for sustainability, and is regarded as a weak sustainability course.

Management Accounting: Accounting for Organizational Control (231) is a second-year course required by CAANZ for entry into the CA program. It is a practically based paper where students learn technical skills such as Activity Based Costing and Budgeting. The course introduces students to sustainability for about a week, and covers how sustainability and ethics may best be addressed within organisations. The

sustainability chapter is drawn from Langfield-Smith et al.'s (2018) textbook, *Management Accounting: Information for Creating and Managing Value*. The course convenor uses the book chapter questions for tutorial discussions on sustainability in the class. While Management Accounting: Accounting for Organisational Control (231) is an accredited course for the accounting profession, the paper convenor has been able to fit in a week of sustainability content alongside the technical aspects of management accounting required by the profession. This course scored a mean of 3 out of 10 on sustainability level and is a weak sustainability course. The course convenor stated:

This course primarily focuses on technical aspects of management accounting and does not engage a lot in relation to sustainability.

The third- and fourth-year Management Accounting courses (331 and 431) are core courses required by CAANZ. The course convenor stated:

Sustainability was first introduced in 2011 with the introduction of a text book which has significant influence over which topics are taught. The text book (Horngren et al., 2018) provides one entire chapter on sustainability.

The text influences the inclusion of sustainability in the third- and fourth-year management accounting course.

The paper convenor also uses YouTube videos and newspaper articles to illustrate climate change issues and environmental consequences in the class. He stated that an essay is given on sustainability in the final exam for students to complete. This "Management Accounting" course scored a mean of 3 out of 10 for sustainability level. It is a weak sustainability course.

The third- and fourth-year advanced accounting theory course (301/401) is a core course required by CAANZ for enrolment into the CA program. Sustainability was first introduced into the course in the 1980s. Currently it is taught in one to two weeks of lectures. The course convenor stated:

In order to understand sustainability, we engage with case studies in lectures that illustrate how traditional business practices have 'gone wrong'. When students see these examples, 'You can hear a pin drop'... Students are shocked.

The students are motivated to learn about the cases on sustainability in relation to the damage businesses can do to the environment. However, they are not so keen on engaging with sustainability topics as they hold the belief that accounting is a discipline where only technical skills need to be learnt.

The paper convenor said that he sets an essay assignment topic on sustainability for students to attempt. Also some tutorial questions are given on sustainability for students to complete within a week. The course scored a mean of 4 out of 10 on sustainability level and is a weak sustainability course.

The fifth-year Advanced Management Accounting course (531) is a core course for post-graduate students. The course examines the role of management accounting in business and academia. As for all postgraduate courses, it is not required by CAANZ. The course convener stated:

Sustainability has never been an integral part of the course until recently. It is discussed more now than ever before. This is because sustainability has grown as a result of global reporting initiatives and introduction of integrated reporting.

Sustainability is an important topic in this fifth-year course. Four lectures are devoted to sustainability issues (one being a guest lecturer from business and the rest are student presentations). The lecturer uses YouTube videos and refereed journal articles from the reading list to teach sustainability. The course scored a mean of 4 out of 10 on level of sustainability and is a weak sustainability course.

It is noted that the convener of the fifth-year management accounting feels that students lack a passion for sustainability because in their prior learning, they have been mainly exposed to the technical skills of accounting. Table 7 summarises the different ways of embedding education for sustainability in the accounting courses.

Insert Table 7 about here.

Courses 412/512, 407, 221 and 507 have strong sustainability content. These courses devote more hours to sustainability education teaching, engage with deeper learning skills in classrooms and have built in higher levels of assessment of sustainability issues.

The accounting major's qualifications at DBS are accredited by professional bodies. This means that accounting major graduates may apply to undertake professional qualifications with these bodies (CAANZ, ACCA and CPA (Australia)). A review of professional bodies' websites demonstrates that these bodies have begun to incorporate language around sustainability accounting in their activities.

Although the professional accreditation requirements leave very little room for teaching additional topics on sustainability, business schools could still promote sustainability accounting education. This can be accomplished through the offer of sustainability accounting as a minor alongside accounting subjects. Students at bachelor's level gain a broad introduction to accounting topics. To pursue a bachelor's in

accounting degree with a sustainability emphasis, students need to forgo other elective courses in favour of sustainability accounting.

Overwhelmingly, sustainability accounting is not covered in classrooms, but the DBS strategy could be followed by other business schools. These strategies entail finding places where sustainability can be woven into the existing accounting curriculum, and the use of supplementary textbooks such as Horngren et al., (2018).

As for the accredited courses in the first year (101), basic ideas of sustainability are taught over 2 to 3 hours. Sustainability is embedded through lectures, workshops and workshop homework. In course 221, Ethics and Sustainability, the sustainability aspect is embedded through lectures, tutorials, tutorial assignments and assignment questions. In 231 Accounting and Organisational Control and 331/431 Management Accounting, sustainability accounting is embedded through a week of lectures, workshops and workshop homework, as well as an essay question in the exam for 331/431 students.

In course 301/401, sustainability is embedded through lectures, tutorial questions and essay questions in assignments. However, in the accredited courses, the level of sustainability content remains low, due to a heavier emphasis on the technical requirements by the accreditation professional bodies. Elective papers in Business Schools offered as minor in sustainability could include a course such as 407 Accounting for Sustainability. The 407 paper aims to study how business organisations might integrate sustainable development into their decision making and performance evaluation. The knowledge component entails relating sustainability issues to accounting, relating sustainability issues to management, identifying and analysing strategies for achievement of sustainability, and critically evaluating the current responses to sustainability issues. The assessment incorporates an essay (15%) involving discussion of a sustainability-related topic, a research topic (25%) on theoretical research on a sustainability-based topic, a group case-based study on sustainability (15%) and a final exam of 45%.

Integrated reporting for Socially Responsible Strategies could be another elective course offered as a minor in sustainability. This course could provide avenues for reporting on the six capitals (financial, manufactured, intellectual, human, social and relationship, and natural). Integrated reporting demonstrates value created by the company itself. Assignment and activities for the course could be creative. Students are generally enthusiastic about sustainability, and assignments that pique their interest are not that challenging to craft. For instance, students can be asked to review and analyse organisations such as New Zealand Post's integrated report and do an in-depth analysis of the company's environment, social and governance disclosures, and implications for society and even themselves as stakeholders/ customers.

Some of the creative ways of making elective papers more interesting in order to engage students include asking students to read articles or blogposts (<https://arc.eaa-online.org/blog/can-accountants-save-world-incorporating-sustainability-accounting-courses-and-curricula>) “on how accountants could make the world a better place” (Meyer, 2021, p.2). Students can also engage in role play, such as acting as business CEOs, members of senior management, shareholders or stakeholders concerned about a company’s sustainability policy.

From the findings above, it is explicit that higher education can play a role in creating a responsible and sustainable society (Hazelton and Haigh, 2010). It is encouraging to see that most papers have made changes to the learning environment to cultivate a new learning culture on sustainability, which is intended to stimulate creative thinking and lifelong learning.

6.0 – Discussion

The purpose of this paper was to investigate the extent of sustainability education in the accounting curriculum of the Delta Business School in New Zealand. The paper has attempted to identify learning strategies that are effective in disseminating education for sustainable development. Other schools could adopt these strategies. The professional accounting associations in New Zealand such as CAANZ, ACCA and CPA (Australia) have also followed through with advocacy training and research funding on sustainability research. By adopting sustainability education, the university remains legitimate in the eyes of its external stakeholders. While there is an important literature that addresses sustainability and accounting education, only a small portion of these papers directly address the deep challenges that sustainability presents in classrooms and more broadly (Gray, 2013). Ten accounting courses were identified as containing sustainability content. Six courses were weakly embedded with sustainability in the accounting curriculum while four courses were strongly embedded with sustainability. However, most of the strong sustainability courses are optional, and many students felt that the weak sustainability courses provided only a token appreciation of sustainability, with much of the limited content on sustainability being repeated in each course.

Boyce et al. (2012) point out that commitment from top management is essential for effective embedding of social courses. This has been the case at DBS, with strong support from the Dean of the school and accounting heads of department. Although the professional accreditation requirements leave very little room to teach additional topics on sustainability, business schools can still promote sustainability accounting education. This can be accomplished through the offer of sustainability accounting as a minor alongside accounting subjects. Sustainability education requires the development of critical thinking skills in the classroom. Accounting educators need to direct developmental efforts to the ‘whole person’ and to

use education as an agent of emancipation. A broader curriculum enables universities to remain legitimate within the eyes of their stakeholders. That is, the universities operate in conformance with community expectations, and therefore are seen as being legitimate (Deegan, 2019).

Our findings suggest that the sustainability courses at DBS provide a foundation, on the basis of which students can start to understand sustainability concepts. This approach could be followed by other universities by incorporating topics on sustainability in their existing accounting curricula. While it is understood that the current curriculum is deeply embedded with technical skills advocated by accounting professional bodies room can be made to include a topic on sustainability in most courses in the accounting curriculum.

By including sustainability in existing courses, rather than providing stand-alone classes, DBS is attempting to encourage students to view sustainability as integral to accounting rather than an add-on, or supplementary business practice. However, DBS's offerings in this respect lack coordination, and depth in some courses' sustainability contents. These contents have been created by individual lecturers, who believe that some mention of sustainability is necessary, even in busy classrooms where much traditional accounting material has to be presented.

The embedding of sustainability within the New Zealand accounting curriculum is ascribed to coercive pressure from management, in order to appear legitimate to the wider group of stakeholders. Normative pressure from the accounting profession also plays an important role in embedding sustainability in accounting curricula.

7.0 Conclusion

This paper contributes to the discussion required to understand how sustainability education is embedded within the accounting curriculum and the perceptions of lecturers and students towards sustainability education. Investigating sustainability education within the accounting curriculum is a neglected area in higher education. Sustainability education could help to improve future societal decisions and lifestyles. Sustainability education will help future managers and accountants exhibit care for society, and the environment.

Sustainability education in accounting could be instrumental in transforming the nature and role of the accountant in society. This transformation essentially is about accountants' roles moving away from being concerned only with the stewardship of financial capital, and becoming custodians, guardians and agents of the wider public interest, including environmental and social concerns. The DBS example can help other business schools to emulate DBS's approach to education for sustainable development. This will enable

accountants and managers to be more effectively educated to become change agents for sustainability (Hesselbarth and Schaltegger, 2014).

This study is limited to sustainability education content at a single university. The study is important as it provides avenues for accounting educators to incorporate sustainability education into their curricula and learn from DBS's experience. There are limited studies on integrating sustainability education into accounting curricula. Future research could usefully explore how other universities, worldwide, are embedding sustainability education into their curricula.

<i>Paper code</i>	<i>Number of hours per semester devoted to sustainability</i>	<i>Triple bottom line focus of sustainability</i>	<i>Form of sustainability</i>	<i>Student Assessment</i>	<i>Depth of analysis of sustainability issues</i>	<i>Required Course/ Elective</i>
101	2 – 3	All pillars addressed – Emphasis on economic (technical skills)	Weak	Low	Low – Basic ideas of sustainability are taught (Mean =3)	Required
209	6	All pillars addressed – Emphasis on economic	Weak	Low	Low – Basic ideas of sustainability are taught (Mean = 4)	Elective
221	30	All pillars addressed – Emphasis on social (ethics)	Strong	High	High – Research is required for essay (Mean = 6)	Required
231	4	All pillars addressed – Emphasis on economic	Weak	Low	Low – Research is required for essay (Mean =3)	Required
301/401	8	Balanced – All pillars addressed. Emphasis on social	Weak	Low	Low – Research is required for essay (Mean =4)	Required
331/431	5	All pillars addressed – Emphasis on economic	Weak	Low	Low – Only the textbook is utilised (Mean= 3)	Required
407	48	Balanced – All pillars addressed	Strong	High	High - Critical Analysis (Mean =7)	Elective
412/512	48	Balanced – All pillars addressed	Strong	High	High - Critical Analysis (Mean =9)	Elective
507	48	Balanced – All pillars addressed	Strong	High	High - Critical Analysis (Mean =8)	Required
531	8	Balanced with emphasis on social and environmental	Weak	Low	Low – Research is required for lectures (Mean = 4).	Required

Table 2: Sustainability education in New Zealand university business qualifications and accounting studies

University	Compulsory sustainability component as part of degree	Integrating sustainability into accounting paper	Offers sustainability paper at undergraduate level	Offers sustainability paper at postgraduate level	Offers sustainability in business degree
Auckland	No	Yes	No	Yes	Yes
AUT	No	Yes	No	Yes	Yes
Waikato	Yes	Yes	Yes	Yes	Yes
Massey	No	Yes	No	No	Yes
Victoria	No	Yes	No	No	Yes
Canterbury	No	Yes	Yes	Yes	Yes
Lincoln	No	Yes	No	No	Yes
Otago	No	Yes	No	No	Yes

(Adapted from Botes et al., 2014, p.106)

Table 3: 221 - Ethics and sustainability course			
Level 200 [2 nd year]	Aim: This paper provides an overview of the sources of New Zealand business law and obligations that arise under this law, and critically examines the importance of ethics, sustainability and the Treaty of Waitangi to contemporary business.		
	The three pillars of sustainability		
Paper component	Economy	Society	Environment
Knowledge	<ul style="list-style-type: none"> • Definitions of law • Types of law • NZ constitution • NZ court system 	<ul style="list-style-type: none"> • Introduction to business ethics • Recognizing ethical issues and problems • Ethical judgment and decision making • Ethics and managers • Ethical issues in business 	<ul style="list-style-type: none"> • TBL, sustainability – taught through ethics
Skills and assessment	Assignment (22.5%) – Discussion of recent ethical issue in the news Test (22.5%) Tutorial attendance (5%) Exam (50%) – Examination		
Number of hours per semester devoted to sustainability		5 hours [4 lectures and 1 tutorial]	

Table 4: 407 - Accounting for sustainability course			
Level 400	Aim: A study of how business organisations might integrate sustainable development into their decision making and performance evaluation.		
	The three pillars of sustainability		
Paper component	Economy	Society	Environment
Knowledge	<ul style="list-style-type: none"> Relate sustainability issues to accounting 	<ul style="list-style-type: none"> Identify and analyse sustainability issues Relate sustainability issues to Management Identify and analyse strategies for achievement of sustainability Make recommendations for implementation of sustainability initiatives 	
Skills and assessment	Essay (16.5%) – Discussion of a sustainability-related topic Research project (21%) – Theoretical research of a sustainability topic Group case study (12.5%) Exam (50%)		
Number of hours per semester devoted to sustainability		48 hours	

Table 5: 412/512 – Organisations and society course			
Level 400 and 500		Aim: This paper encourages students to develop their integrative knowledge of managerial disciplines.	
		The three pillars of sustainability	
Paper component	Economy	Society	Environment
Knowledge	<ul style="list-style-type: none"> • Knowledge of the role of management 	<ul style="list-style-type: none"> • Citizenship – emotional, spiritual and societal values • Accounting as a social phenomenon • Intellectual independence, self-motivation and organisation • Professional approach to life 	<ul style="list-style-type: none"> • Environmental management
Skills and assessment	ACCT412: Essay (25%) – Discussion of a sustainability-related topic Final test (20%) Small group work (20%) – Dialectical enquiry into a research article of the students’ choosing Tutorial work (20%) – Presentation of, and weekly discussion of, research articles Visitor reports (15%) – Discussion with visiting presenters and reports on main points of discussion ACCT512: Essay (30%) – Discussion of a sustainability-related topic Final test (30%) Small group work (20%) – Dialectical enquiry into a research article of the students’ choosing Tutorial work (20%) – Presentation of, and weekly discussion of, research articles		
Number of hours per semester devoted to sustainability		48 [all lectures, seminars and tutorials]	

Table 6: 507 – Accounting, sustainability and a changing environment course:			
Level 500		Aim: A study of the potential role(s) of accounting in the journey to a sustainable civilisation.	
The three pillars of sustainability			
Paper component	Economy	Society	Environment
Knowledge	<ul style="list-style-type: none"> • Where firms disclose and where shareholders want disclosure • Voluntary assurance of sustainability reports • Management accounting perspectives 	<ul style="list-style-type: none"> • The role of ethical investing • Contemporary issues • Why voluntarily disclose? – 	<ul style="list-style-type: none"> • Does environmental disclosure reflect environmental performance
Skills and assessment	Assignment project (30%) Final test (30%) Participation (10%) – Participation in discussion of sustainability topics Individual seminar presentation (15%) – Presentation of a research article related to sustainability Group seminar presentation (15%) – Presentation of a research article related to sustainability		
Number of hours per semester devoted to sustainability		48 [all lectures and seminars]	

Table 7 Different ways of embedding education for sustainability in the accounting courses

Course	Aim	Ways of embedding education for sustainability
1. 101 Introduction to Accounting	This course emphasises the organisational and social context of accounting.	Lectures, workshops and workshop homework
2. 209 Accounting and managerial decision making	This course is designed as a foundation for those wishing to commence or continue their studies in Accounting with a Graduate Diploma.	Lecture, workshops and workshop homework.
3. 231 Accounting and organisational control	This course emphasises the skills involved in the everyday practice of management accounting. .	Lectures, workshops and workshop homework.
4.331/ 431 Management Accounting	This course critically examines current theory and research in management accounting.	Lectures, workshops, Essay question in Exam.
5.301/401 Accounting Theory	The objective of this course is to help students develop critical thinking and sound analytical skills about the past, present and future of accounting theory and practice.	Lecture, tutorials, tutorial assignment, Essay question in assignment.
6. 221 Ethics and Sustainability	This course provides an overview of the sources of New Zealand business law and the obligations that arise under this law, and critically examines the importance of ethics, sustainability and the Treaty of Waitangi to contemporary business	Lecture, tutorial, assignment question.
7. 531 Advanced Management Accounting	This course aims to develop skills and critical ability in management accounting. .	Lectures, student presentations, guest lectures on ‘sustainability in practice’.
8. 407 Accounting for Sustainability	The course aims to study how organisations might integrate sustainable development into their decision making and performance evaluation.	Lectures, tutorial, essay assignment, research project, group case study and final exam.
9. 507 Accounting, Sustainability and a Changing Environment	The course is about a study of the potential role (s) of accounting in the journey to a sustainable civilisation.	Lectures, tutorials, assignment project, test, individual presentation, group seminar presentation.
10. 412/512 Organisation and Society	This course encourages students to develop their integrative knowledge of management disciplines.	Lectures, tutorials, essay, visitor reports, group work, final exam.

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