

University accounting and business curricula on sustainability: Perception of undergraduate students

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Abstract

The challenge to embed sustainability in the formal curriculum has been troublesome for accounting academics. This study investigates sustainability in the accounting curriculum at a regional university in New Zealand. Sustainability practices are becoming an important issue given that many business activity problems have arisen over the years, unsustainable practices have resulted in societal and environmental damages. There has been an increasing recognition of the need for sustainability teaching in tertiary education.

Education plays an important role in equipping graduates with the relevant sustainability skills to make informed decisions towards a more sustainable world. There is a need to examine how students respond to the teaching of sustainability in their courses. This will allow education providers to find out how students perceive sustainability education, and make changes to improve the teaching of sustainability. Literatures have claimed that students have positive attitudes towards sustainability; however, this does not mean that students are familiar with the concept of sustainability. There are business students who seem to perceive the study of sustainability to be less important when compared to other subjects. There still seems to be a shortage of research done on how students perceive sustainability. This paper contributes to the discussion needed to understand what sustainability skills are required by managers and how tertiary education programs in accounting may need to incorporate sustainability. The role of accounting schools in leading and managing change towards sustainability must be further informed.

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1.0 Introduction

The notion of sustainability is emerging as a megatrend (Von der Heidt & Lamberton, 2011) raising environmental issues such as global warming, climate change and radical changes in the business and social environment. Increased environmental awareness is encouraging groups and individuals to consider sustainable development (Mebratu, 1998; Myburgh, 2001). Sustainability, like corporate social responsibility fosters long term competitive advantage (Porter & Kramer, 2006) and an organisation's increased ability to attract and retain high quality employees (Von der Heidt & Lamberton, 2011; Hargroves & Smith, 2005). There are an increasing number of companies that are implementing sustainability practice into their business operations (Myburgh, 2001; Stubbs & Cocklin, 2008). This growth demonstrates the importance of implementing sustainability in the curricula of business, and in particular the accounting education system (Stubbs & Cocklin, 2008).

Education is the foundation to sustainable development and an essential aspect in the sustainability development process (Blewitt & Cullingford, 2004). Education not only provides the knowledge and initiatives for awareness of sustainability development, but it also shapes the material reality we live in and can essentially alter it (Blewitt & Cullingford, 2004). Von der Heidt and Lamberton (2011) posit that education for sustainability development should motivate and equip individuals with the knowledge to reflect and make informed decisions to create a more sustainable world.

However, embedding sustainability courses in the curriculum has proven to be a challenge for higher education (Von der Heidt & Lamberton, 2011). It is a rigorous task, particularly with the conventional approaches to accounting, which have "long been implicated in perpetuating unsustainable practice" (Hazelton & Haigh, 2010, p.160). Accounting plays an important role in the context of social management (Myburgh, 2001; Blewitt & Cullingford, 2004).

There exists literature detailing what students should learn in the area of sustainability; however, there are limited publications that elaborate on what students actually know about sustainability (Carew and Mitchell, 2002). Researchers of the Education for Sustainability Development have confirmed that there has been a lack of research into how university students perceive sustainability development (Kagawa, 2007). This reveals a grey area and there is a need to find out more on how students perceive sustainability in the business and accounting curriculum. This research extends several pieces of earlier work on sustainability education (Von der Heidt & Lamberton, 2011; Christensen et al., 2007; Kagawa, 2007; Carew and Mitchell, 2002).

This study is guided by two research questions:

- How well does the University educate and promote sustainability in the accounting curricula?
- What are students' attitudes and perceived understanding towards sustainability courses introduced at the University?

The next section discusses education for sustainability which is then followed by the research method section. The penultimate section sets out the theoretical basis for the study which is followed by the result section. Finally, the narrative is brought together through a discussion/conclusion section.

2.0 Understanding accounting and business education for sustainability

Integrating sustainability in education is important as Djordjevic and Cotton (2011) suggests there "...has been a growing awareness in national and international policies of the need to integrate sustainability into both business and educational areas" (p.381). With this growing awareness, and as companies implement aspects of sustainability into their business practices, it is becoming more evident what needs to be included in the curricula of business and accounting courses (Stubbs & Cocklin, 2008).

The most used definition of sustainable development is 'meets the needs of the present without compromising the ability of future generations to meet their own needs' (Brundtland,

1987, p.8). Education for Sustainability Development is defined as, "...a process of learning how to make decisions that consider the long-term future of the economy, ecology and equity of all communities" (UNESCO, 2004, p.18). Sustainability, itself, is in the process of transformation (Lamberton, 2000). Nicolaidis (2006) suggests that the rate of economic development is not sustainable; society at large acknowledges this problem, and education is the key to promoting a sustainable society. Blewitt and Cullingford (2004) further notes that education is a critical element in sustainability as education enables responses to the changing reality and facilitates the preparation of a different future.

Education for sustainable development helps people to find solutions to problem that are threatening the sustainability of the planet (UNESCO, 2008). Jucker (2002) believes that education is the most "idealistic notion" to build awareness about sustainability because without an education system that promotes learning and understanding, it would be difficult to achieve transition to sustainability. Blewitt and Cullingford (2004) believe that using critical theory in education for sustainable development leads to going beyond changing the behaviours of individuals, to empowering individuals to implement changes that contribute to a sustainable world. Similarly, Chulian (2011) posits that teachings in sustainability (for accounting) aid students to develop the aptitudes that would prepare them to understanding the limitations that arise in general business dealings and traditional accounting. Education for sustainable development is crucial for students, as it attempts to build individual awareness of the issues surrounding sustainability, and educate individuals of ways on how to contribute to a more sustainable world (Von der Heide & Lamberton, 2011).

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). Kagawa (2007) supports the need to make literacy in sustainability a core competency for professional graduates. Jucker (2002) claims that graduate of different schools will each have a significant stake in future society; therefore, it is imperative for these graduates to have sound knowledge of sustainability and the issues surrounding it. Thomas (2004) argues that a university is not fulfilling its job if it cannot produce graduates with a high degree of sustainability literacy. Education providers are obligated to provide students with quality and specialised sustainability-related programs which ensure students behave ethically and responsibly towards society in the future (Nicolaidis, 2006).

Students' perceptions on sustainability offered at tertiary levels are positive. For example, Von der Heide and Lambertson's (2011) sustainability survey conducted on students from Southern Cross University in Australia found that students were satisfied with the sustainability units (Ethics and Sustainability, and Sustainable Business Management) being offered in their business curriculum. Students gave an average mean of 4 out of 5. Similarly, Kagawa's (2007) research on students' understanding and perception of sustainable development at the University of Plymouth found that over 90 per cent of respondents gave a positive reaction to sustainability, identifying it as a "good thing".

Kagawa's (2007) research found that when students were asked to explain the meaning of sustainable development in the surveys, respondents could not give an "even partially accurate answer". Even the 20 per cent of respondents who claimed awareness of sustainable development were unable to explain the meaning. Unfortunately it appears that many students are not familiar with what sustainability actually means (Jucker, 2002).

Students are more positive towards mandatory accounting courses, such as management accounting and financial accounting, because these courses are more 'practical' and 'relevant' to their future jobs (Hazelton & Haigh, 2010; Blewitt & Cullingford, 2004). MacVaugh & Norton (2012) argues that business or management students enter university for the sole purpose of receiving the required education to obtain the professional skills and knowledge that is needed for their career, and this focus sometimes does not include the study of environmental problems and global concerns. Furthermore, Carr, Chua and Perera's (2006) research on 226 accounting graduates in New Zealand found that students have a lack of enthusiasm towards a broader accounting education; students considered 'social and environmental perspectives' as being the least important area for curriculum emphasis. Perhaps, the motivation for these students' decisions is derived because professional bodies have, "...a latent concern for sustainability" (Dawe, Grant & Taylor, 2003, p.24).

There are two most commonly used structures for incorporating sustainability in the business and accounting curriculum (Cathy, 2010; Thomas, 2004; Hazelton and Haigh, 2010). The first approach entails the introduction of sustainability into existing courses of the programme. The second approach is to have a separate stand-alone course that deals specifically with sustainability (Christensen *et al.*, 2007).

The advantages of a stand-alone course is its ability to enable the student to explore, in detail, the concept of sustainability, its principles and knowledge (Stubbs and Schapper, 2012). Such courses are easier to create as sustainability is the main focus, however it means acquiring more knowledge about sustainability for the preparers of the courses (Cathy, 2010). Although stand-alone courses provide students with more detailed learning capabilities on sustainability, a disadvantage Stubbs and Schapper (2012) identifies is, "...the unintended result may be that students may see sustainability as a separate issue, disconnected from...commonly core business subjects" (p.261); for example, the legal environment, economics, accounting, and corporate finance. Similarly, Stubbs and Cocklin (2008) claim that students need to understand the different interpretations of sustainability in relation to the context of business to avoid educational disconnection. Another disadvantage of a stand-alone course is that students can perceive materials taught as incremental, not core studies, and therefore irrelevant (Thomas, 2004). The next section presents the theoretical framework for the study.

3.0 Theoretical Framework

We study accounting and business education for sustainable development as intending to legitimise the university with the various stakeholders. A "social contract" exists between the business faculty and society, it confers the organisation with the legitimacy required for its continued use of resources (Dowling & Pfeffer, 1975). Any breach of this "social contract" damages organisational legitimacy and challenges its survival (Archel *et al.*, 2009; Lindblom, 1993).

Legitimacy theory posits that organisations attempt to operate within the bounds and norms of their respective citizens (Suchman, 1995; Fogarty, 1996; Guthrie & Parker, 1989; Brown & Deegan, 1998; Wilmhurst & Frost, 2000); De Villiers & Lubbe, 2001). These bounds and norms change over time, requiring the organisations to be responsive. Legitimacy has been defined by Lindblom (1993, p.2) as:

...a condition or status which exists when an entity's value system is congruent with the value of the larger social system of which the entity is a part. When a disparity, actual or potential, exists between the two systems, there is a threat to the entity's legitimacy.

Brown and Deegan (1998) further report that if an organisation cannot justify its continued operation, then the community may revoke its "contract" to continue its operations. This may involve consumers reducing or eliminating the demand for the business products, factor

suppliers eliminating the supply of labour and financial capital to the business, or constituents lobbying government for increased fines, taxes or laws to prohibit those actions that do not conform to societal expectations (Brown & Deegan, 1998). Education for sustainable development at universities can be used to improve business legitimacy.

Legitimacy is a condition or status that persists when an entity's value system is congruent with the large social system's value system of which the entity is a part (Brown & Deegan, 1998). When a disparity, actual or potential exists between the two value systems, there is a possibility of threat to the entity's legitimacy. Organisations draw on community resources and output both goods and services and waste products to the general environment in order to allow for the organisation's existence, society expects benefits to exceed costs (Deegan, 2002). Legitimacy theory posits that external factors influence corporate management to seek to legitimise their activities. Hence, corporate managers react to community expectations. The stakeholders within a community shape what activities, companies, as members of that community should carry out.

Legitimacy is a resource for an organisation's survival (Oliver, 1991; Meyer & Rowan, 1977). Organisations perceived by stakeholders to be legitimate find it easier to attract economic resources as well as gaining the social and political support necessary for their survival (Oliver, 1991; Ogden & Clarke, 2005). Suchman (1995, p.574) defines legitimacy as "a generalised perception or assumption that the actions of an entity are desirable, or appropriate within some socially constructed system of norms, values and definitions." Ogden and Clarke (2005, p.314) provide some clarity to the definition by illuminating that, legitimacy is a 'perception' or 'assumption' on the part of an organisation's public and although it may be possessed objectively, it is created subjectively. Following the adoption of appropriate institutional norms and routines that are consistent with social norms and by conforming to widespread understanding of what is considered typically acceptable (Meyer & Rowan, 1977; Ogden & Clarke, 2005), legitimacy can be achieved provided powerful stakeholders endorse and support the organisation.

According to Fogarty (1996, p.246), organisation that do not appreciate how their actions are infused with values in terms of meeting the expectations of important constituents may lose support, and thus endanger their continued right to exist. Legitimacy theory posits the presence of external forces that influence the design of accountability system such as

sustainability accounting practices (DiMaggio & Powell, 1983, 1991; Oliver, 1991). External legitimacy is essential to an organisation's survival. Organisations gain legitimacy and enhances their survival prospects by implementing new controls and techniques such as sustainable accounting practices (Hoque *et al.*, 2004). The next section discusses the research method for the study.

4.0 Method

This research is undertaken at a regional university in New Zealand. Both business and accounting students from the Business School was surveyed. The sample consisted of 30 second-year business students and 30 final-year accounting students. The sample of respondents for the surveys was randomly selected from the school; it included 50 per cent female and 50 per cent male. Questionnaires were distributed to students in various locations surrounding the business schools, such as in computer labs and outside of lecture theatres near the school. Participation was voluntary.

Both primary and secondary research was conducted. Primary research was conducted using five to ten minute questionnaire on a total of 60 students. A copy of the questionnaire is shown at Appendix A. The purpose of the survey is to find out how second-year students perceive sustainability in comparison to students in their final year of studies. Questions in the surveys consist of both closed and open questions and both quantitative and qualitative data were collected. Some questions used a Likert scale from 1 to 5.

Secondary research involved analyses of business and accounting papers offered at the School. Paper outlines of these papers were thoroughly examined regarding the sustainability aspects. Many of these papers are compulsory business papers that students must take for their Bachelor's degree. Generally these papers integrate sustainability in to their existing course. Some of the papers are optional accounting papers, and are primarily sustainability-focused (see Table1):

Table 1: List of compulsory and optional sustainability-focused papers offered at the School.

<u>Compulsory papers</u>		
Paper code	Level	Details
STMG191	1	Introduction to Management
ECON100	1	Business Economics and the New Zealand Economy
ACCT101	1	Accounting for Management
ACCT202	2	Intermediate Financial Accounting
ACCT231	2	Management Accounting: Accounting for Organisational Control
ACCT301/401	3/4	Accounting Theory
ACCT331/431	3/4	Management Accounting
<u>Optional papers</u>		
Paper code	Level	Details
ACCT412/512	4/5	Organisations and Society
ACCT407	4	Accounting for Sustainability
ACCT507	5	Accounting, Sustainability and a Changing Environment

The next section of this report provides the results for the study.

5.0 Results

This section presents the result of the study in three subsections. Subsection 1 presents evidence on students' prior knowledge of sustainability. Subsection 2 outlines the perception of students towards the study of sustainability at the Waikato Management School. The final subsection presents evidence on students' understanding of the concept of sustainability.

5.1 Student's prior knowledge of sustainability and improvement in knowledge

This section examines survey results on students' prior knowledge of sustainability and how their knowledge on sustainable development has advanced through tertiary studies. Students were asked whether they were taught about sustainability prior to their university studies. More than half had no knowledge of sustainability until they were actually taught at the University. Out of the 60 students who took the survey, 14 students learnt about sustainability prior to tertiary studies, nine students could not recall, whilst 37 students had not studied sustainability prior to coming to university. This suggests that introductory papers that introduce the topic of sustainability are essential to many students. If new students find introductory sustainability courses stimulating, it will encourage them to further their studies in this area.

Table 1 lists the year-one papers that the School offers which are core business papers that provide some coverage of sustainability in their contents. For example, the ACCT101 (Accounting for Management) offers topics on the social aspects of accounting. The majority of second-year students give positive feedback on the first year papers they studied.

Table 2 shows the results on all students' ratings on their extent of knowledge improvement of sustainability, since, taking the papers at the School (WMS) listed in Table 1. The number of papers taken varies between students. Students were asked to rate on a scale from 1 to 5, where 1 meant "I have become more confused" and 5 meant "Improved very much".

Table 2: Improvement of students' sustainability knowledge since taking papers from the Waikato Management School		
	Number of students	
Ratings	Year four and above (out of 30)	Year two (out of 30)
5 Improved very much	8	3
4 Reasonable improvement	20	10
3 A little improvement	2	16
2 No improvement at all	0	1
1 I have become more confused	0	0

When comparing both year groups of students, Table 2 shows a majority of final-year students thought their knowledge of sustainability had reasonably improved, whereas a majority of the second-year students thought their knowledge in sustainability had only improved a little.

The average scale rating score of all final year students was 4.2 out of 5, compared to year-two students' of 3.5 out of 5. The score differences may result because final-year students have taken more papers in their course of studies (also taken level 3 or/and 4 accounting papers), as compared to second year students (taken only a few year one papers).

A university is not fulfilling the obligation it has to society if it fails to create graduates with a high degree of social and environmental literacy (Thomas, 2004). A majority of the students responded that their knowledge in sustainability has improved. This is good, given that a majority of the WMS student had no knowledge of sustainability prior to coming to

University. The WMS is fulfilling its obligation to provide students with sustainability knowledge.

5.2 Perception of students towards the study of sustainability at the Waikato Management School (WMS)

This section presents results on students' perception towards the study of sustainability at the School. Table 3 summarises the feedback received on the four characteristics shown in Table 4.

- A) Supportiveness towards teaching of sustainability at WMS;
- B) Satisfaction with the content of sustainability courses being taught at WMS;
- C) Usefulness of sustainability towards students' studies; and
- D) Understanding of the sustainability concept.

Students were asked to score on a scale of 1 to 5. A score of 1 represents negative feedback, whereas a score of 5 represents positive feedback. Table 3 summarises the average scores of the students from both groups, on the four different characteristics.

The results for the individual characteristics will be discussed next.

Table 3: Combined average score ratings (out of 5)			
	Combined ratings of 30 students from year four and above	Combined ratings of 30 students from year two students	Combined ratings from all students
A. Supportiveness	4.23	3.97	4.1
B. Satisfactory	3.63	3.43	3.5
C. Usefulness	4.27	3.70	4.0
D. Understanding	4.00	3.40	3.7

Table 4: Students' ratings on the characteristics of sustainability teaching at WMS		
	Number of students	
	Year four and above (out of 30)	Year two(out of 30)
A) Supportiveness towards teaching of sustainability at the WMS		
5: Very supportive	10	9
4: Somewhat	17	11
3: Neutral	3	10
2: Not very	0	0
1: Not at all supportive	0	0
B) Satisfaction with the content of sustainability being taught in courses taken so far		
5: Very satisfied	3	2
4: Somewhat	15	11
3: Neutral	10	15
2: Not very	2	2
1: Not at all satisfied	0	0
C) Usefulness of sustainability towards their studies		
5: Very useful	12	6
4: Somewhat	14	13
3: Neutral	4	7
2: Not very	0	4
1: Not at all useful	0	0
D) Understanding in the concept of sustainability		
5: Understand a lot	7	3
4: Reasonable understanding	16	9
3: Some understanding	7	15
2: Understand a little	0	3
1: I do not understand the concept	0	0

Table 3 shows the total average rating score of all students towards their supportiveness of sustainability teaching is 4.1 out of 5. Overall, this is high. A majority of the students

specified the importance of sustainability studies. However, there can be improvement in the current education in the area of sustainability offered by the WMS.

Research done by Kagawa (2007) found that students had general pro-sustainability attitudes towards sustainability, and more than 90 per cent of students had a positive attitude towards sustainability. Research done by Von der Heide & Lamberton (2011) shows a majority of the students were supportive of the sustainability courses that they took.

Table 5 provides some of the qualitative feedback from students of both year groups. A majority of the students were supportive towards sustainability teaching. Furthermore, a majority of the students indicated the “importance” of having sustainability knowledge, and the potential importance of sustainability in the “future”. However, some students mentioned that some of the sustainability teaching was repetitive.

Table 6 shows some of the comments students have made regarding their satisfaction with the content of sustainability being taught. A majority of the students commented on the lack of depth of sustainability, describing it as being ‘briefly’ touched on in courses. Hazleton and Haigh (2010) found a portion of the students thought sustainability courses only provide general knowledge of sustainability, which is not practical. Similarly, feedback from some students suggested the sustainability content needs to be more practical, with real examples. Kagawa (2007) suggests that students have a general pro-sustainability attitude towards sustainability, but it is important to create opportunities “... where students could participate in greening of campus initiatives by themselves” (p.335).

Table 5: Students' qualitative feedbacks for Sustainability Education

Student qualitative feedbacks for A) Supportiveness of sustainability teaching at the WMS
<p>Final year accounting students:</p> <ul style="list-style-type: none"> • <i>It is important to consider the impact corporate operations have on the environment (rated 5).</i> • <i>Really important to be taught about sustainability to fit in today's changing environment. Businesses are becoming more aware about disclosures of sustainability reporting (rated 5).</i> • <i>Will be useful for current environmental but is repeated a lot throughout papers (rated 4).</i> • <i>I feel that it is useful but they teach it way too much (rated 3).</i> • <i>It's the future thinking; new way of doing things (rated 5).</i> • <i>It will be the key business issue in the next five decades (rated 5)</i> • <i>It is a new trend that must be understood (rated 5).</i> • <i>This is a pressing issue which is not going to go away. The future of business is affected greatly by it (rated 5).</i> • <i>Important for our future to plan ahead and provide for future generations (rated 5).</i>
<p>Second year students:</p> <ul style="list-style-type: none"> • <i>Sustainability is going to become an essential focus in contemporary and future business, so it seem like a good idea that students are prepared for this (rated 5)</i> • <i>We all should know and have basic knowledge of sustainability because it's really important in the 'real' world and influence the way we act (rated 4).</i> • <i>I am very supportive assuming its taught in relevant applicable ways, other than theoretical concepts (rated 5)</i> • <i>I think it is important to be aware of the importance of sustainability (rated 4)</i> • <i>Requirement of future study (rated 5).</i> • <i>If sustainability is taught, more people will become more aware of the better business (rated 4)</i> • <i>I feel that in today's world, it is crucial that every attempt at being sustainable is done (rated 4).</i> • <i>Sustainability is important concept; however, I feel it is repeated a lot throughout the course (rated 4).</i>

45 out of 60 students (see Table 4) rated 4 and above when asked about the usefulness of sustainability towards students' studies; this indicates that they feel sustainability is useful in their studies. Many students think learning about sustainability is crucial as it is important to be knowledgeable in this area nowadays. Most final year students thought sustainability is useful towards their studies, but four year-two students who scored only 2 out of 5. The negative rating was because the students thought sustainability would not be used in their workplace, particularly in small firms, thus the learning is not practicable.

Table 6 Student qualitative feedback

Student qualitative feedbacks for B) Satisfaction with the content of sustainability being taught in courses so far
<p>Year four and above students</p> <ul style="list-style-type: none"> • <i>All courses only provide one chapter about sustainability. Except for ACCT502 which has a discussion about it. However, it's still not enough (rated 3)</i> • <i>It is mainly mentioned or taught as a separate section in papers, not included in each topic or decisions (rated 2)</i> • <i>Needs an integrated approach across papers and across disciplines (rated 3)</i> • <i>There is not much focus on sustainability teaching. It is only taught as a brief component to overall papers, no strong focus dedicating to that very topic (rated 3)</i> • <i>Somewhat satisfied, because we just do the learning and not calculating the externalities (rated 4)</i> • <i>Shown pros, cons, and learnt about the current state of sustainability reporting (rated 5)</i> • <i>Sustainability is one of the most important topics in almost all of the papers (rated 5)</i> • <i>Very good papers provided at the University but kind of repetitive (rated 5)</i> • <i>Learnt enough of it to have a good understanding (rated 4)</i> • <i>It's good how in class the teacher taught us different theories of sustainability. I would suggest the subject to be more practical (rated 4)</i> • <i>Taught in way too many papers – same stuff over and over again (rated 2)</i> • <i>There could be some amount of variation in different papers (rated 3)</i>
<p>Year two students</p> <ul style="list-style-type: none"> • <i>We have been taught briefly about it (rated 3)</i> • <i>There is a good focus but not huge (rated 3)</i> • <i>Small sections taught, not much weighting in the course (rated 3)</i> • <i>Related well to the rest of the course (rated 4)</i> • <i>Learnt sustainability in ACCT101, but did not go in-depth. Also, briefly touched on the topic in STMG 191 (rated 3)</i> • <i>I feel that as though it has been taught mostly theoretically without much emphasis on changing behaviour or actually applying it to the way we live/manage (rated 3)</i> • <i>Some lectures in many papers sometimes get off topic (rated 3)</i> • <i>The information provided so far has been good. However, it would be good if we could see more evidence on its practical application (rated 4)</i>

5.3 Understanding of the concept sustainability

Students were asked to rate their understanding of the concept and define it. Results show that that majority of the students feel that their understanding of the concept is reasonable. As shown in Table 4 that 35 out of 60 students have rated 4 or above for their understanding of the concept.

Table 7 compares papers taken by final-year student with second-year students. Results show, almost all students have taken the compulsory papers STMG191, ECON100, and ACCT101. Only a few year two students have taken level two and level three papers. The final year students have taken more papers with an integrated sustainability component, including ACCT301, ACCT401, and ACCT431. Thus the final year students' understanding of the concept tends to be stronger than that of the year two students.

	Final year students (out of 30)	Year two students (out of 30)
	No. of students of students who have taken the paper	No. of students of students who have taken the paper
STMG191	29	29
ECON100	29	29
ACCT101	29	29
ACCT202	26	10
ACCT231	29	8
ACCT301/401	27	2
ACCT331/431	24	2
ACCT412	4	0
ACCT512	3	0
ACCT407	4	0
ACCT507	3	0
Others papers (incl. MSYS111, MNGT221)	6	11

Students were asked to define the term “sustainability”. Their definitions were ranked using a 0 to 3 scale. “0” means the student left this question unanswered. “1” indicates the student was capable of linking the concept well to variables such as: the environment, society, and

economics. “2” indicates the student was able to roughly link the concept with the environment and society. “3” indicates the student was unable to provide any reasonable definition of the term.

Table 8 - Result of students’ definition of the term “Sustainability”						
	Final year Students (out of 30 students)			Second year students (out of 30 students)		
	Female	Male	Total	Female	Male	Total
0 - No definition	2	4	6	4	2	6
1 - Good understanding	9	9	18	7	10	17
2 - Some understanding	4	1	5	3	3	6
3 – Poor	0	1	1	1	0	1
	15	15	30	15	15	30

Table 8 shows the majority of students displayed a “good understanding” of the term. There were no strong gender differences, or even year of studies differences. This latter finding contradicts the results obtained in Table 2 (D).

11 senior students had taken at least one sustainability-focused accounting papers. That is papers that deal specifically with sustainability (see p. 11). These are the optional papers: ACCT412, ACCT512, ACCT407, and ACCT507. Other senior students were asked why they had not taken such papers. The main explanation was that the papers were not compulsory. They were not required by NZICA. Consequently students chose other papers, which they deemed more relevant to their future careers. Of the 11 students who had taken sustainability-focused papers 8 were “very supportive” of those papers. They rated the papers 4 or 5 for usefulness.

All students were asked whether sustainability-focused accounting papers should become compulsory papers. Table 9 summaries the findings. Stubbs & Schapper (2012) report that students perceive sustainability in stand-alone courses as a separate issue to other core business subjects. However, the results show that most students at WMS are supportive of stand-alone sustainability papers.

	Number of students		
	Yes	No	Don't care
<i>Final year student</i>	20	6	4
<i>Year two student</i>	11	9	10
Total	31	15	14

NZICA does not have a requirement that sustainability-focused accounting papers are compulsory (NZICA, 2010). This allows students to choose other papers over sustainability-focused papers.

6. Discussion/ Conclusion

The purpose of this paper is to examine how students, particularly accounting and business students, from a regional New Zealand university perceive sustainability teachings in existing courses. It addresses two research questions: How well does the University educate and promote sustainability in the accounting curricula? What are students' attitudes and perceived understanding towards sustainability courses introduced at the University?

Papers offered by the WMS were examined based on their sustainability content. The opinions of sixty students, were collected by survey. The research findings demonstrate that the majority of the students had no prior knowledge of sustainability. Thus, tertiary education must lay the foundation of sustainable development for many students.

The results suggest that students' knowledge of sustainability improves when they take papers relevant to sustainability at WMS. Most students have a positive perception of sustainability education. Students who have taken sustainability-focused papers are supportive of the teachings and find them useful. A majority of students felt that sustainability-focused papers should become compulsory. However, findings indicated a knowledge gap in some students' understanding of the concept.

Overall, tertiary education plays an important role to ensure graduates are taught with the relevant and practical sustainability skills. It is crucial for students as they are the potential future leaders of the future. Education for sustainable development will help future managers

to maintain legitimacy with their stakeholders. One of the postulates of legitimacy theory is that the defiance of the “social contract” damages organisational legitimacy and threatens the very survival of the organisation. Drawing on the WMS undergraduate experience, this should be a curriculum that reflects a strong sustainability worldview, teaching students how to make effective business decisions that are in the best interests of customers, society, and the environment and helps the organisation to gain legitimacy from stakeholders.

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Appendix A

Student questionnaire

Thank you for taking the time to complete the following questions.

1. General questions:

Degree: _____

Year of studies: _____

Major(s): _____

Female/Male (please circle)

2. Were you taught about sustainability before you came to study at the University of Waikato? (please circle)

Yes	No	Can't remember
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3. The Waikato Management School offers a variety of papers that involve teaching of sustainability. These papers are listed below. Please tick papers studied:

STMG191		ACCT231		ACCT512	
ECON100		ACCT301/401		ACCT407	
ACCT101		ACCT331/431		ACCT507	
ACCT202		ACCT412			

4. Did you learn about sustainability from any other courses at the Waikato Management School, if so, which?

5. To what extent do you think your knowledge in sustainability has been improved after taking the papers that you have ticked in Q3 and mentioned Q4? (please circle)

Improved very much	Reasonable improvement	A little improvement	Not improvement at all	I have become more confused
5	4	3	2	1

6. Thinking on all the papers that you have ticked in Q3 and mentioned in Q4, please circle on the following:

(i) How supportive are you towards the teaching of sustainability at Waikato Management School?

Very supportive	Somewhat	Neutral	Not very	Not at all supportive
5	4	3	2	1

Please comment on your above answer:

(ii) Overall, how satisfied are you with the content of how sustainability is being taught in your courses so far?

Very satisfied	Somewhat	Neutral	Not very	Not at all satisfied
5	4	3	2	1

Please comment on your above answer:

(iii) How useful do you think learning about sustainability is towards your studies?

Very useful	Somewhat	Neutral	Not very	Not at all useful
5	4	3	2	1

Please comment on your above answer:

(iv) How well do you think you understand the concept of sustainability?

Understand a lot	Reasonably understand	Understand some	Understand a little	I do not understand the concept at all
5	4	3	2	1

Please comment on your above answer:

7. If possible, briefly define the term “sustainability”?

8. The Waikato Management School offers sustainability-focused accounting papers that are optional to your accounting major (e.g. ACCT412/407). Have you taken/are you taking any sustainability-focused accounting papers?

If NO, please state why: _____ (skip to Q9)

If YES, name this/these paper(s) code(s), and please answer questions (i) and (ii):

(i) How supportive are you towards the sustainability-focused paper(s) that you mentioned?

Very supportive	Somewhat	Neutral	Not very	Not at all supportive
5	4	3	2	1

Please comment on your above answer:

(ii) How useful do you think this/these sustainability-focused paper(s) are towards your studies?

Very useful	Somewhat	Neutral	Not very	Not at all useful
5	4	3	2	1

Please comment on your above answer:

9. Do you think these sustainability-focused accounting papers should become compulsory papers to your paper requirements? (please circle)

Yes	No	Don't care
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10. Are there any other comments that you would like to make about the teaching of sustainability (or similar topic – please name) at WMS?

11. Did you learn about sustainability from any other courses at the Waikato Management School, if so, which?

12. To what extent do you think your knowledge in sustainability has been improved after taking the papers that you have ticked in Q3 and mentioned Q4? (please circle)

Improved very much 5	Reasonable improvement 4	A little improvement 3	Not improvement at all 2	I have become more confused 1
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13. Thinking on all the papers that you have ticked in Q3 and mentioned in Q4, please circle on the following:

(ii) How supportive are you towards the teaching of sustainability at Waikato Management School?

Very supportive 5	Somewhat 4	Neutral 3	Not very 2	Not at all supportive 1
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Please comment on your above answer:

(ii) Overall, how satisfied are you with the content of how sustainability is being taught in your courses so far?

Very satisfied 5	Somewhat 4	Neutral 3	Not very 2	Not at all satisfied 1
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Please comment on your above answer:

(iii) How useful do you think learning about sustainability is towards your studies?

Very useful 5	Somewhat 4	Neutral 3	Not very 2	Not at all useful 1
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Please comment on your above answer:

(iv) How well do you think you understand the concept of sustainability?

Understand a lot 5	Reasonably understand 4	Understand some 3	Understand a little 2	I do not understand the concept at all 1
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Please comment on your above answer:

14. If possible, briefly define the term “sustainability”?

15. The Waikato Management School offers sustainability-focused accounting papers that are optional to your accounting major (e.g. ACCT412/407). Have you taken/are you taking any sustainability-focused accounting papers?

If NO, please state why: _____ (skip to Q9)

If YES, name this/these paper(s) code(s), and please answer questions (i) and (ii):

 (iii) How supportive are you towards the sustainability-focused paper(s) that you mentioned?

Very supportive	Somewhat	Neutral	Not very	Not at all supportive
5	4	3	2	1

Please comment on your above answer:

(iv) How useful do you think this/these sustainability-focused paper(s) are towards your studies?

Very useful	Somewhat	Neutral	Not very	Not at all useful
5	4	3	2	1

Please comment on your above answer:

16. Do you think these sustainability-focused accounting papers should become compulsory papers to your paper requirements? (please circle)

Yes	No	Don't care
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17. Are there any other comments that you would like to make about the teaching of sustainability (or similar topic – please name) at WMS?