

# **Students' perceptions of education for sustainable development in the accounting and business curriculum at a Business School in New Zealand**

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## **ABSTRACT**

**Purpose:** The purpose of this paper is to explore students' perceptions and understandings of, and attitudes towards, education for sustainable development at Delta Business School (DBS) in New Zealand [1]. The aim is to extend the limited literature on students' perceptions of education for sustainable development (ESD) within an accounting and business curriculum.

**Design/ Methodology/ approach:** To ascertain the students' evaluations of their ESD, a survey was administered to 60 accounting and business students at DBS. The survey data were supplemented with interview evidence from 20 of the 60 students in order to obtain a deeper understanding of the students' evaluations.

**Findings:** A majority of the students' perceive ESD as a "good thing." Students were supportive of the sustainable business learning experience offered at DBS. The results suggest that students' knowledge of sustainable business practices improved significantly from their studies.

**Originality/ Value:** There is a shortage of research concerning how students perceive sustainable development education. This paper contributes to the discussion of what to incorporate in sustainable education programmes, in order to help students properly to understand sustainable development. We believe accounting and business education should develop graduates into broad minded thinkers with a capacity for independent and critical thought. This will prepare them for future leadership roles.

**Practical Implications:** The paper should assist education providers to assess how students' perceive education for sustainable development. This may help bring about changes, to improve the teaching of sustainable development. Universities can be the main providers of ESD but other educational providers such as the professional accounting bodies will also need to manage the development of ongoing education processes. Most students at DBS believe they are obtaining a good understanding of the concept of sustainability

**Key words:** Education, sustainable development, accounting, students, perception, learning.

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## **1.0 Introduction**

Education for sustainable development (ESD) is growing in popularity (Hazelton & Haigh, 2010; Kagawa, 2007; Djordjevic & Cotton, 2011; Bahae, Perez-Batres, Pisani, Miller & Saremi, 2012; Antonites & De Villiers, 2003). The importance of ESD was recognised with the establishment of the United Nations Decade for Education for Sustainable Development (2005- 2014). Education is the foundation to sustainable development (Blewitt & Cullingford, 2004; Prinsloo & Van Rooyen, 2007). Education not only provides the knowledge and initiatives for awareness of sustainable development, but it also shapes the material reality we live in and can essentially alter it (Blewitt & Cullingford, 2004). Von der Heide and Lamberton (2011) posit that ESD should motivate and equip individuals to make informed decisions on how to create a more sustainable world.

However, embedding sustainable development courses in the curriculum has proven to be a challenge for higher education (Von der Heide & 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).

Existing education systems can therefore present a dilemma for sustainability. They often support existing social practices and ideologies that are dominant in society. In a society that is operating in an unsustainable manner, unsustainable systems and ways of living can simply be ‘transmitted’ from one generation to the next (Parliamentary Commission for the Environment, 2004, pp.40/41).

Accounting plays an important role in the context of social management (Blewitt & Cullingford, 2004; Sharma & Hoque, 2002; Sharma & Davey, 2013; Sharma, 2013; Lawrence *et al.*, 2010; De Villiers & Van Staden, 2006, 2012). There exists much literature detailing what students should learn in the area of sustainable development; however, there are limited publications that explore what students actually do know about sustainable development (Kagawa, 2007; Bahae *et al.*, 2012). Researchers of ESD have confirmed that there has been a lack of research into how university students perceive sustainable development (Carew & Mitchell, 2002; Kagawa, 2007). There is a need to find out more on how students perceive sustainable development in the business and accounting curriculum. This is an important area which our paper expands on. Business education through ESD

enhances the development of graduates to become broad-minded thinkers with a capacity for independent and critical thought. These skills prepare students for future leadership roles.

**The research question:**

What are students' attitudes towards, and perceived understanding of, ESD courses at DBS? The paper proceeds as follows: Section 2 discusses ESD. Section 3 describes the research methods. Section 4 presents the results. Section 5 provides the conclusions.

**2.0 Understanding accounting and ESD**

This section examines the importance of ESD and the prior studies on ESD. The first subsection delineates the importance of ESD which is followed by the second subsection on prior studies on ESD.

*2.1 Importance of ESD*

Integrating sustainability in to education is important as Djordjevic and Cotton (2011, p.381) suggest 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 sustainable development into their business practices, it is becoming evident what needs to be included in the curricula of business and accounting courses (Stubbs & Cocklin, 2008). Teaching sustainable development in higher education is regarded as a normative ideal (De Villiers, 2003).

The issue of sustainability development has grown since its inclusion in the Brundtland report (1987), where sustainability was defined as the development that "meets the needs of the present without compromising the ability of future generations to meet their own needs". ESD 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 a process of transformation (Lamberton, 2000; Wingard & Vorster, 2001). Nicolaidis (2006) suggests that the rate of economic development is not sustainable; society at large acknowledges this problem, and education must help to promote a sustainable society. Blewitt and Cullingford (2004) note that education is a critical element in

sustainable development. It enables responses to our changing ‘reality’ and facilitates transition to a different future.

ESD helps people to identify and address problems that are threatening the sustainability of the planet (UNESCO, 2008). Jucker (2002) believes that education must help to build awareness of sustainability; without an education system that promotes learning and understanding, it would be difficult to implement sustainable business practices. Blewitt and Cullingford (2004) believe that the use of critical theory in ESD will empower individuals to implement changes that contribute to a sustainable world. Similarly, Chulian (2011) posits that teachings in sustainable development (for accounting and business) aid students to develop the aptitudes that prepare them to understand the limitations of general business practices and traditional accounting. ESD educates individuals how to contribute to a more sustainable world (Von der Heidt & Lamberton, 2011). Stubbs and Cocklin (2008) point out that it is important for students to understand the worldviews that underlie different interpretations of sustainable development in the context of business. For students to learn effectively about sustainable development, they must develop the ability to think in new ways, to engage with different worldviews.

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 sustainable development a core competency for professional graduates. Jucker (2002) claims that graduates of different schools will each have a significant stake in future society. Therefore, he believes that all graduates must obtain a sound knowledge of sustainable development and the issues surrounding it. Thomas (2004) argues that a university is not fulfilling its job if it does not produce graduates with a high degree of sustainable development literacy. Education providers are obligated to provide students with quality and specialised sustainable development-related programs which ensure students behave ethically and responsibly towards society in the future (Nicolaidis, 2006). The delivery of ESD is necessary for DBS to perform as a good corporate citizen.

According to Fogarty (1996, p.246), organisations 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. Organisations enhance their survival prospects, and standing in the community, by implementing new techniques such as

ESD in to their culture (Hoque *et al.*, 2004). The Parliamentary Commission for the Environment (PCE, 2004) suggests:

Ultimately, education for sustainability requires people to critically think about and reflect on their own values and the values embedded in the institutions that surround them. This can provide a basis for deciding what sorts of values a society (and different groups within it) may wish to pursue, without blindly accepting the current situation. It also requires some conscious individual and collective responsibility for making those decisions... Education for sustainability needs to encourage people to reflect on their own underlying assumptions, as well as those of other people and institutions in society (PCE, 2004, p.41).

Universities can be primary providers of ESD. Accounting and business academics need to ensure that ESD is integrated within the accounting and business curriculum. Professional accounting bodies also need to contribute to the development of ESD. The next subsection examines the prior studies on ESD.

## *2.2 Prior Studies on ESD*

Higher education is challenged with the task of providing ESD (Von der Heide & Lamberton, 2011; Tingey-Holyoak & Burritt, 2012). Prior studies have noted that students' perceptions on sustainable development (offered at tertiary levels) are positive (Kagawa, 2007; Von der Heide & Lamberton, 2011). For example, Von der Heide and Lamberton's (2011) sustainable development 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 grade 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 reported a positive reaction to ESD, identifying it as a "good thing"; however, this result may be questionable because Kagawa's (2007) research also found that when business students were asked to explain the meaning of sustainable development, respondents could not give an "even partially accurate answer". Even the 20 per cent of respondents who claimed awareness of sustainable development were unable properly to explain its meaning.

Students are generally more positive towards traditional, mandatory accounting courses, such as management accounting and financial accounting. These courses are more 'practical' and 'relevant' to their future jobs (Hazelton & Haigh, 2010; Blewitt & Cullingford, 2004). MacVaugh & Norton (2012) argue that business or management students enter university for

the sole purpose of obtaining the necessary education to provide the professional skills and knowledge that is required for their future careers. This approach often dissuades students from the study of environmental problems and other global concerns. Carr, Chua and Perera's (2006) research on 226 accounting graduates in New Zealand found that students have a lack of enthusiasm for a broader accounting education; students consider 'social and environmental perspectives' as being of lesser importance in the curriculum. Perhaps, an explanation of these students' position is the professional bodies, "...latent concern for sustainability" (Dawe, Grant & Taylor, 2003, p.24).

There are two commonly used methods of incorporating sustainable development in to the business and accounting curriculum (Cathy, 2010; Thomas, 2004; Hazleton and Haigh, 2010). The first method entails the introduction of sustainable development materials into the existing courses. The second requires separate stand-alone courses that deal specifically with sustainable development (Christensen *et al.*, 2007).

Stand-alone courses enable the students to explore, in detail, the concept of sustainable development and its principles (Stubbs and Schapper, 2012). Such courses adopt sustainable development as their main focus. This means the preparers of the courses must develop expertise in sustainable development (Cathy, 2010); however, a disadvantage is, "...students may see sustainability as a separate issue, disconnected from... commonly core business subjects" (Stubbs and Schapper, 2012, p.261). Such subjects include: the legal environment, economics, accounting, and corporate finance. Stubbs and Cocklin (2008) claim that students need to understand different interpretations of sustainability in business in order to avoid educational disconnections. A stand-alone course, containing materials not encountered elsewhere, may be perceived to be outside the core studies area and therefore less relevant (Thomas, 2004).

Professional associations have lobbied for ESD in universities (see Uche, 2002; Mitchell & Quinn, 2005; Botha, 2001). ESD enables universities to promote broader-based learning rather than limiting accounting graduates to a narrow understanding of technical skills (Lawrence *et al.*, 2009). Through ESD, students learn to value the community and the ecosystem of which they are a part. For professional bodies to be successful, they often need the support of their communities (Uche, 2002; Nel & Steenkamp, 2008). The promotion of ESD may encourage this and better the quality of life for everyone now and in the future.

The challenge of ESD has implications for the accounting profession. The profession is responsible not only for the technical and economic performance of their services, but also has wider responsibilities including the promotion of sustainable practices. It must help minimise the environmental impacts of projects, wastes and emissions. It must use its influence to promote social benefits. According to Williams *et al.*, (2010) both the accounting profession and accounting education systems need to encourage ESD if accountants are to play a critical role in sustainable development reporting.

From the above literature, we formulate our research question based on the lack of studies on students' perceptions of ESD. The research question is: what are students' attitudes towards, and perceived understanding of, ESD courses at DBS? The next section describes the research method for this study.

### **3.0 Method**

This research was undertaken at DBS in New Zealand. A sample of 60 accounting and business students was surveyed. The sample members were selected randomly, except that 30 students were in their second year of study (of a normally four year degree) and 30 students were in their final year of study. Questionnaires were distributed to students in various locations around the business school, such as in computer labs and outside the lecture theatres. Participation was voluntary. All the sixty participants volunteered to complete the questionnaire. We only gave questionnaire to those who could complete and return to us within 15-20 minutes. We stayed to collect the completed questionnaires from the participants. Thereafter 20 detailed face to face interviews were conducted with 20 of the 60 students, to supplement the survey data. The interview questions are shown at Appendix 1. The 20 interviewees were selected at random from the 60 students who had completed the questionnaires

The purpose of the survey was to discover students' attitudes and perceptions of ESD. By utilising a survey approach, it allowed for an analysis of students' attitudes and perceptions of ESD across a broad cross-section of second and fourth year students. Questions in the surveys consisted of both closed and open questions; both quantitative and qualitative data were collected. Some questions used a Likert scale from 1 to 5. The use of Likert scale in the questionnaire helped us in the data analysis. A copy of the survey questions is shown at

Appendix 2. The questions asked were developed from the literature (see Kagawa, 2007; Thomas, 2004).

Secondary research involved analyses of business and accounting courses offered at the School. Course outlines were examined to identify their sustainable development contents. Many of the courses are compulsory. Generally these courses integrate sustainability materials into existing traditional material. Some of the courses are optional, and some of these primarily focus on sustainable development (see Table1):

<b>Table 1: List of compulsory &amp; optional sustainable business courses offered at DBS.</b>		
<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
ACCT 412	4	Organisations and Society
ACCT 512	5	Organisations and Society
ACCT407	4	Accounting for Sustainability
ACCT507	5	Accounting, Sustainability and a Changing Environment

We analysed our interview evidence by preparing tables listing issues frequently raised in the interviews (Sharma *et al.*, 2010; Sharma & Lawrence, 2009). Several themes (perceptions of students on ESD, satisfaction with content of ESD, students' prior knowledge of sustainability) were identified.

## 4.0 Results

This section presents the result of the study in three subsections. Subsection 4.1 presents evidence of students' prior-to-university knowledge of sustainability. Subsection 4.2 outlines the perception of students on ESD during their studies at DBS. Subsection 4.3 provides evidence of the students' holistic understanding of the concept of sustainable development.

### *4.1 Student's prior knowledge of sustainability and improvement in knowledge*

Students were asked whether they were taught about sustainable development prior to their university studies. More than half had no knowledge of sustainable development until they attended University. Out of the 60 students who took the survey, 14 students learnt about sustainable development prior to tertiary studies, nine students could not recall, 37 students stated they had not studied sustainable development prior to coming to university. This implies that introductory education on sustainable development is essential to many new students. If new students find introductory sustainable development material stimulating, it will encourage their interest in this area; suitable material can be integrated into the existing curriculum.

Table 1 lists the year-one papers with ESD that DBS offers, for example, ACCT101 (Accounting for Management) discusses the social aspects of accounting. The majority of students provide positive feedback on their first year papers.

Table 2 shows the students' ratings on their extent of knowledge improvement of sustainable development, since, taking the courses. Note that 30 of these responses come from year two students and 30 from final year students; 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".

Ratings	Number of students	
	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

Table 2 shows a majority of final-year students thought their knowledge of sustainable development had reasonably improved, whereas a majority of the second-year students thought their knowledge of sustainable development had only improved a little. The average scale rating score of all final year students was 4.2, compared to year-two students' of 3.5. The score differences were expected because final-year students will have taken more subjects in their studies than second year students (see Table 6, p.15). By integrating ESD into its accounting curriculum, the school has provided materials relevant to a topic worthy of serious study (Springett & Kearins, 2001; Thomas, 2005). Students are encouraged to expect a broad-based education, which includes ESD, from the university.

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). The university has a social contract with society. Through its ESD curriculum, the university provides a valuable service to its stakeholders (Thomas, 2004). A majority of the students report that their knowledge of sustainable development has improved.

#### *4.2 Perception of students on ESD at DBS*

Table 3 summarises the feedback received on the four characteristics shown:

- A) Support for teaching sustainable development at DBS;
- B) Satisfaction with the content of the sustainable development courses being taught at DBS;
- C) Usefulness of sustainable development for graduates of DBS;
- D) Holistic understanding of the sustainable development concept.

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

**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

The total average rating of all students towards support for the teaching of sustainable development is 4.1. However, the students believe there can be improvement in the current offerings in ESD at DBS. The interviewees revealed that a majority of students are supportive of ESD. Furthermore, a majority of the interviewees appreciated the importance of having sustainable development knowledge for the “future”. However, some interviewees complained that some of the sustainability teaching was repetitive. Support for ESD is revealed by the following responses:

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

(Student 1)

I feel it is really important to be taught about sustainable development to fit in today’s changing environment. Businesses are becoming more aware about disclosures of sustainability reporting.

(Student 6)

Sustainable development is going to become an essential focus in contemporary and future business, so it seems like a good idea that students are prepared further.

(Student 13).

Universities like any institution operate in society via a social contract (Deegan, 2009), expressed or implied, whereby its survival and growth is based on delivery of socially desirable ends to society. According to Deegan (2009), it is necessary periodically for organisations to move into a new area of operations in which they have no past experience. In such an environment, the organisation has to engage in activities to win acceptance. DBS commenced ESD to prepare its graduates better to benefit society.

Table 4 shows some of the comments students have made regarding their satisfaction with the content of sustainable development courses. Table 4 is sourced from the interview data. The interview data supplemented survey data by demonstrating that students at DBS understood

and had a positive attitude towards ESD. However, a majority of the students commented on the lack of depth in the ESD content, describing sustainability as being ‘briefly’ touched on in courses. Some students identified repetitive material in different courses, which should be avoided. Hazleton and Haigh (2010) found a portion of the students thought sustainable development courses only provide general knowledge of sustainable development, which is not of much use in practice. Feedback from some students’ also suggested the sustainable development 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). In order to integrate sustainability into managerial decision making processes, students and executives must be persuaded of its importance as a business issue (Thomas, 2005; De Villiers & Lubbe, 2001; An *et al.*,2013; Nieuwoudt & Wilcocks, 2005).

45 out of 60 students rated ESD 4-and-above when asked about the usefulness of sustainable development in students’ studies. Many students think learning about sustainability is crucial; that it is important to be knowledgeable in this area. Most final year students thought sustainable development is useful in their studies, but four year-two students provided scores of only 2. Information from the interviewees suggests that this negative rating was because the students thought sustainable development is not useful in the workplace, particularly in small firms. Strong professional boundaries have traditionally placed limitation on what it is seen as “legitimate” to learn (Springett & Kearins, 2001; De Villiers & Vorster, 1995). In this instance, a perceived lack of usage of sustainable development in the workplace makes ESD appear less relevant to some students.

**Table 4 Student qualitative feedback**

<b>Satisfaction with the content of sustainable development being taught in courses</b>
<p><b>Year four students</b></p> <ul style="list-style-type: none"><li>• <i>All courses only provide one chapter about sustainability. Except for ACCT512 which has a discussion about it. However, it's still not enough (rated 3)</i></li><li>• <i>It is mainly mentioned or taught as a separate section in papers, not included in each topic or decisions (rated 2)</i></li><li>• <i>Needs an integrated approach across papers and across disciplines (rated 3)</i></li><li>• <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></li><li>• <i>Somewhat satisfied, because we just do the learning and not calculating the externalities (rated 4)</i></li><li>• <i>Shown pros, cons, and learnt about the current state of sustainability reporting (rated 5)</i></li><li>• <i>Sustainability is one of the most important topics in almost all of the papers (rated 5)</i></li><li>• <i>Very good papers provided at the University but kind of repetitive (rated 5)</i></li><li>• <i>Learnt enough of it to have a good understanding (rated 4)</i></li><li>• <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></li><li>• <i>Taught in way too many papers – same stuff over and over again (rated 2)</i></li><li>• <i>There could be some amount of variation in different papers (rated 3)</i></li></ul>
<p><b>Year two students</b></p> <ul style="list-style-type: none"><li>• <i>We have been taught briefly about it (rated 3)</i></li><li>• <i>There is a good focus but not huge (rated 3)</i></li><li>• <i>Small sections taught, not much weighting in the course (rated 3)</i></li><li>• <i>Related well to the rest of the course (rated 4)</i></li><li>• <i>Learnt sustainability in ACCT101, but did not go in-depth. Also, briefly touched on the topic in STMG 191 (rated 3)</i></li><li>• <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></li><li>• <i>Some lectures in many papers sometimes get off topic (rated 3)</i></li><li>• <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></li></ul>

The courses STMG191, ECON100, ACCT101, ACCT202, ACCT331, ACCT301/401 provide some level of ESD but it is regarded generally as weak. That is they cover sustainable development material for a week only. ACCT431 offers ESD but the content is limited to only one and a half weeks of lectures. ACCT412/512, ACCT407 and ACCT507 all have strong ESD content. ACCT412/512, ACCT407 and ACCT507 encourage critical thinking around the notion of ESD. There are also visitors from large organisations who present to these classes on sustainable development issues. The presentations are designed to give real world examples of sustainable development in business which helps students to understand why this topic is so important.

#### *4.3 Understanding the concept of sustainable development*

Students were asked to rate their holistic understanding of the concept (Table 5), and define it (Table 7, p.16). Results show that the majority of the students feel that their understanding of the concept is reasonable. Some 35 out of 60 students rated their understanding at 4-or-above. Table 5 below presents the results, which display a considerably improved understanding between year two and final year students

<b>Table 5: Understanding of the concept of sustainable development</b>		
	Year Four Students (out of 30)	Year Two (out of 30)
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 6 provides some information concerning the number of students who have taken a particular ESD course. Almost all students have taken the compulsory papers STMG191, ECON100, and ACCT101. Only a few year two students have taken relevant level two and level three papers. The final year students have taken more papers with an integrated sustainability component, including ACCT301, ACCT401, and ACCT431. This explains why the final year students' understanding of the concept tends to be stronger than in year two students.

**Table 6: Comparison of papers taken by final-year student versus second-year students**

	<b>Final year students (30)</b>	<b>Year two students (30)</b>
	No. of students who have taken the course	No. of students who have taken the course
STMG191	29	29
ECON100	29	29
ACCT101	29	29
ACCT202	26	10
ACCT231	29	8
ACCT301/4 01	27	2
ACCT331/4 31	24	2
ACCT412	4	0
ACCT512	3	0
ACCT407	4	0
ACCT507	3	0

14 senior students had taken at least one sustainable development-focused accounting paper. That is papers that deal specifically with sustainable development (see p. 8). 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 the New Zealand Institute of Chartered Accountants (NZICA). Consequently students chose other optional papers, which they deem more relevant to their future careers.

Table 7 compares the understandings of year two and year four students for the concept of sustainable development. 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.

<b>Table 7 - Result of students' definitions of the term "Sustainability"</b>						
	Final year Students (30)			Second year students (30)		
	Female	Male	Total	Female	Male	Total
0 - No definition	2	4	6	4	2	6
1 - Good understanding	9	9	<b>18</b>	7	10	<b>17</b>
2 - Some understanding	4	1	5	3	3	6
3 – Poor	0	1	1	1	0	1
	15	15	30	15	15	30

The majority of students displayed a “good understanding” of the term. There were no strong gender differences, or even year of studies differences. This finding is in contrast to Kagawa (2007) study; he found that students could barely define the notion of “sustainability.” Our results evidences that DBS has been effective in providing ESD.

All students were asked whether sustainable development-focused accounting papers should become compulsory papers. Table 8 summarises the findings. Stubbs & Schapper (2012) report that students perceive sustainable development in stand-alone courses as a separate issue to other core business subjects, implying they cannot link such courses to their other studies. However, our results show that most students at DBS are supportive of stand-alone sustainability papers. ESD helps to ensure that students receive broad based educations best to prepare them as future managers. They are encouraged to manage to achieve both financial and other, broader sustainable development goals. Graduating future managers prepared to embrace broad based societal goals helps to maintain their perceived value in society and with accrediting agencies like AACSB (Swanson, 2005).

<b>Table 8: Students' view on whether ESD should be compulsory</b>			
	Number of students		
	Yes	No	Don't care
<i>Final year student</i>	20	6	4
<i>Year two student</i>	11	9	10
<b>Total</b>	31	15	14

The New Zealand Institute of Chartered Accountants does not have a requirement that sustainable development focused accounting papers are compulsory (NZICA, 2010). This allows students to avoid exposure to ESD if they wish.

## **5. Conclusion**

The purpose of this paper is to examine students' perceptions and understandings of ESD at DBS. It addresses the research question: What are students' attitudes towards, and perceived understanding of, ESD courses at DBS?

The opinions of sixty students were collected by survey. Interviews were also conducted with 20 students. The majority of the students had no prior knowledge of sustainable development before attending university. Thus, tertiary education must lay the foundation of sustainable development for many students.

The results suggest that students' knowledge of sustainable development improves when they take relevant courses at DBS. Most students have a positive perception of ESD. Students who have taken sustainable development focused courses are generally supportive of the teachings and find them useful. A majority of students feel that sustainable development-focused papers should become compulsory. Some research findings indicate a knowledge gap in students' understanding of the concept (Jucker, 2002; Kagawa, 2007). However, the majority of students at DBS gained a reasonable understanding of the concept of sustainability.

There is a shortage of research done on how students perceive sustainable development within accounting and business curricula (Kagawa, 2007; Bahae *et al.*, 2012). This paper

contributes to the discussion needed to understand why tertiary education in areas such as accounting and business needs to include sustainable development practices. DBS also promotes practical understanding of sustainable development by inviting guest lecturers from Corporations to deliver talks on sustainable development at work places.

Overall, higher education can play an important role in ensuring that graduates are taught relevant and practical sustainable development skills (Von der Heidt and Lamberton, 2011). It is crucial this happens because students are potential future leaders. ESD will help future managers better to liaise with their stakeholders. By incorporating ESD into the accounting curriculum, DBS has attempted to ensure that both students and faculty recognise a topic worthy of serious study. We believe ESD should be developed worldwide, to encourage students to learn how to make effective business decisions that are in the best overall interests of all stakeholders.

This paper has practical implications in that it may help providers of business education to discover how students' perceive ESD, and thereby bring about changes to improve ESD within business curricula. It is hoped that ESD today will aid future managers to improve future business practices.

Investigating students' perceptions of ESD remains a largely neglected area in higher education. This paper is focused on a single university setting in New Zealand. Future studies in other universities would be welcome. Such studies could explore various means of improving ESD. There is no universal formula for ESD. It is vital to create a curricula change processes within which local students' perceptions of, and aspirations for, sustainable development are addressed in a manner acceptable to local faculty. In a rapidly changing and uncertain world, higher education needs to play a role in encouraging students to become active responsible citizens.

## **Endnotes**

1.Used as a pseudonym

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## **Appendix 1**

### **Interview Questions**

1. Did you study sustainability in High school? If so, please provide detail.
2. Can you comment on the content of sustainability within accounting curriculum? Please provide detail.
3. Are the courses on sustainability taught on a stand-alone basis or are they integrated with other topics in accounting? Please elaborate.
4. Has there been a lot of focus on ESD at DBS? Explain.
5. How satisfied are you with ESD courses? Please explain.
6. How do you find the lecturers who teach ESD content? Do they teach different theories on sustainability? Explain.
7. Do you think any improvements need to be brought about to these ESD courses? Explain.
8. Do you have enough assessments on ESD courses? Explain.
9. How can the school do better in terms of ESD curriculum? Please explain.

## Appendix 2

### 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? (please circle)

Yes	No	Can't remember
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3. The DBS 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 DBS, 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 DBS?

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 DBS 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
-----	----	------------

10. Are there any other comments that you would like to make about the teaching of sustainability (or similar topic – please name) at DBS?

11. Did you learn about sustainability from any other courses at the DBS, 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	Reasonable improvement	A little improvement	Not improvement at all	I have become more confused
5	4	3	2	1

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 DBS?

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:

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

15. The DBS 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
-----	----	------------

17. Are there any other comments that you would like to make about the teaching of sustainability (or similar topic – please name) at DBS?