

Veera Olkinuora

ATTITUDES TOWARDS SUSTAINABLE DEVELOPMENT

ATTITUDES TOWARDS SUSTAINABLE DEVELOPMENT

Veera Olkinuora
Bachelor's thesis
Spring 2014
Business Information Technology
Oulu University of Applied Sciences

ABSTRACT

Oulu University of Applied Sciences
Business information technology

Author: Veera Olkinuora
Title of thesis: Attitudes Towards Sustainable Development
Supervisor: Anu Niva
Term and year when the thesis was submitted: Spring 2014
Number of pages: 23 + 22 appendices

The purpose of this thesis is to offer up to date information on the international students' knowledge and attitude towards sustainable development in Oulu University of Applied Sciences. This thesis was commissioned by the Oulu University of Applied Sciences Sustainable Development Team. Similar study was conducted with the Finnish students in 2011.

The research task was done in two parts. First the survey questions were translated to English and a few questions were added to gather more background information on the respondents. The primary research included data collection with an online survey, analysis and summary. The online survey was sent to all the students in English speaking degree programmes.

The main conclusions from the survey were that the international students had good basic knowledge in sustainable development. Overall the students' attitudes towards sustainable development were positive. Students felt that sustainable development issues are handled well in the schools everyday operations and that sustainable development teaching should be more practical.

Keywords: *Sustainable Development, Sustainability, Green IT, Student Survey, Oulu University of Applied Sciences*

CONTENTS

1	INTRODUCTION	5
2	SUSTAINABLE DEVELOPMENT	6
3	GREEN IT.....	9
3.1	Energy efficiency	9
3.2	Electronic waste and recycling	10
4	STUDENT SURVEY	11
4.1	Respondents and questionnaire.....	11
4.2	Results	11
5	CONCLUSIONS	18
6	DISCUSSION	21
	REFERENCES.....	22
	APPENDICES	24

1 INTRODUCTION

In today's world, almost all organizations have adopted some sustainable development policies. Sustainable development has been embraced because it secures a future for our children and their children. Sustainability has moved from being something of a burden, to being something that is valuable in itself.

Green IT can be seen as continuum of sustainable development. Green IT strives to have a minimal effect, or no affect at all, to the environment.

A survey on sustainable development was conducted with the Finnish students of Oulu UAS in 2011; however, similar survey has not been conducted for the international students of Oulu UAS. Aim of this thesis is to offer up to date information on the international students' knowledge and attitude towards sustainable development.

The thesis topic was given to me by the Oulu University of Applied Sciences Sustainable Development Team. Oulu University of Applied Sciences (Oulu UAS) has created an action programme "Sustainable development as a part of the competence 2015" which aims to make sustainable development a part of everyday life of all students and staff of Oulu UAS. The programmes main objectives are: developing sustainable development teaching, strengthening sustainable development responsibility in research and development work, enhancing daily routines of sustainable development and utilising sustainable development potential in communication (Oulu University of Applied Sciences, 2012).

This thesis focuses mainly on sustainable development and its four different aspects: ecological, economic, social and cultural. Also, energy efficiency and electronic waste and recycling will be discussed in the Green IT chapter.

2 SUSTAINABLE DEVELOPMENT

The concept of sustainable development was popularised in 1987 by the Brundtland Commission, also known as the World Commission on Environment and Development (Dale 2001, 4-5). The Brundtland commission was put together by the United Nations and it was headed by the Norwegian prime minister Gro Harlem Brundtland. The purpose of the Brundtland Commission was to gather countries to work together against the problems of environmental degradation and pursue sustainable development (The Sustainable Development Commission 2011, date of retrieval 2nd December 2013).

In 1992, the United Nations Conference on Environment and Development was held in Rio de Janeiro. Heads of state, representatives of national governments discussed the environmental problems raised by the Brundtland commissions report "Our Common Future". This summit was the first international effort to assemble action plans and tactics for a more sustainable pattern of development (The Sustainable Development Commission 2011, date of retrieval 2nd December 2013).

Since the Rio summit, sustainable development has been discussed in many international conferences, but the main event in this decade has been the Rio +20 conference held in Rio de Janeiro in 2012. In this conference the importance of "action-oriented voluntary initiatives to complement government-led action in realizing sustainable development" was emphasized. (The United Nations 2013, date of retrieval 2nd December 2013)

The Brundtland commissions' final report "Our Common Future" describes sustainable development as follows:

Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs. It contains within it two key concepts:

- the concept of 'needs', in particular the essential needs of the world's poor, to which overriding priority should be given; and
- the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. (UN Documents (Our Common Future) 1987, date of retrieval 2nd December 2013)

Dale notes that the concept of sustainable development is constantly evolving concept, but the core concept remains the same: sustainable development indicates integration of the environment and the economy (2001, 7).

Currently the concept of sustainable development is controversial, since many feel that the content of the concept has become too unclear. On many occasions the concept of sustainability has replaced sustainable development (Wikipedia 2014, date of retrieval 1st April 2014)

The concept of sustainable development can be divided into four aspects: economic, ecological, social and cultural aspects. For development to be sustainable all four aspects must be met. A short definition for each aspect is presented below.

Economic aspects

Production and consumption habits change to be more efficient; more wealth from less (natural) resources. The economy grows, but the consumption of natural resources and emissions are reduced at the same time. Economical sustainability is not based on debt or the exploitation of workers.

Ecological aspects

Development is in balance with the natural phenomena and takes into account the preservation and the adequacy natural resources for future generations. Ecological sustainability requires that human activity is limited to the nature's capacity, in way that doesn't compromise biodiversity or the function of the ecosystem.

Social aspects

Everyone has equal opportunities for wellbeing, basic rights and acquisition of basic life requirements, such as food and shelter. In a socially sustainable society, the citizens feel that they are able to influence the decisions affecting them. This helps, the citizens to integrate into society and prevent social exclusion.

Cultural aspects

Development is based on the cultural heritage of each nation and its set of values. It also includes acceptance of different cultures and peaceable coexistence.

Aalto University 2012, date of retrieval 2nd April 2014, Wikipedia 2014, date of retrieval 1st April 2014

3 GREEN IT

Murugesan states that green IT (information technology) refers to environmentally sustainable IT. This can be achieved by integrating sustainability to designing, manufacturing, using and disposing computers, servers and other devices and subsystems. Green IT also strives to be economically effective (2008, 25).

Although green IT tends to focus on purely environmental things, such as energy efficacy and recycling there are many economic benefits as well. Introduction of virtual meetings has reduced travel costs and carbon admissions as well (Computer Weekly, Upton 2014, date of retrieval 2nd April 2014)

3.1 Energy efficiency

While IT has increased energy efficiency, it has also increased overall energy consumption. It is estimated that IT equipment has is the highest consumer of energy per unit of space occupied (Berthannon, Crittenden, Desautels & Pitt 2010, 16).

Most energy is used to run computers that are not being used, because users leave them on. Running computers and servers need cooling, which also uses energy. The amount of energy can be reduced by taking simple steps, such as enabling power management features, switching off systems that are not being used and using thin client computers which use less energy than normal desktop computers (Murugesan 2008, 27-28) Being energy efficient will also reduce costs.

3.2 Electronic waste and recycling

IT equipment, such as hard drives, contains heavy metals, but also precious metals, such as silver, gold and palladium. By recycling electronic devices the harmful substances don't enter our ecosystem, but also precious metals can be harvested and reused. This conserves natural resources and reduces pollution created by manufacturing virgin materials (EPA 2014, date of retrieval 5th April 2014)

Berthelon, Crittenden, Desautels and Pitt suggest that since IT products are designed to obsolesce. It is believed that a shorter lifecycle is better than a longer one, hence obsolete products turning into waste (201, 17)

Both the European Union (EU) and the United States Environmental Protection Agency (EPA) have programs to endorse recycling of electronic waste. The EU's WEE (Waste Electrical and Electronic Equipment) directive requires the sellers and manufacturers to be responsible for disposal of electronic waste. The directive also mandates that disposal of electronic waste should be free for the consumer (Wikipedia 2014, date of retrieval 10th April 2014).

The EPA has the SMM Electronics Challenge, where consumers can hand in their electronic waste to original equipment manufacturer or retailer to be recycled. Participation in this is voluntary for the manufacturers and retailers (EPA 2014 date of retrieval 5th April 2014).

4 STUDENT SURVEY

4.1 Respondents and questionnaire

Questions for the student survey were based on a survey done with the Finnish speaking students in 2011. For the international students a few questions were added to the questionnaire, such as questions 5, 7, 8, 13, 20 and 21. These questions were added on the recommendation of the thesis commissioner and thesis supervisor. The questionnaire was divided in to four sections: background information, sustainable development competence, sustainable development in Oulu University of Applied Sciences and feedback. In total there were 23 questions in the questionnaire. The questionnaire can be found in appendix 1.

Student survey was implemented with Webropol, an online survey tool. Survey link with a short cover letter was sent to all students in English-speaking degree programmes using group ID's (for example: BIT0SN, DIB0SN, DIT0SN). In total there were 283 recipients for the email. A reminder email was sent a week later. The questionnaire was open from January 20th to February 5th.

4.2 Results

Results of the student questionnaire are presented in four sub chapters, based on the questionnaire sections. There were 32 responses to the questionnaire; this gave the questionnaire a response rate of 11, 3 %.

Background information

The respondents were between 43 and 20 years old and were all students of School of Business and Information Management even though the questionnaire was sent to other schools as well. Figure 1 shows the distribution of respondents by their study year. Figure 2 shows the home countries of the respondents. There were almost an equal amount women (53 %) and men (47%) in the respondents.

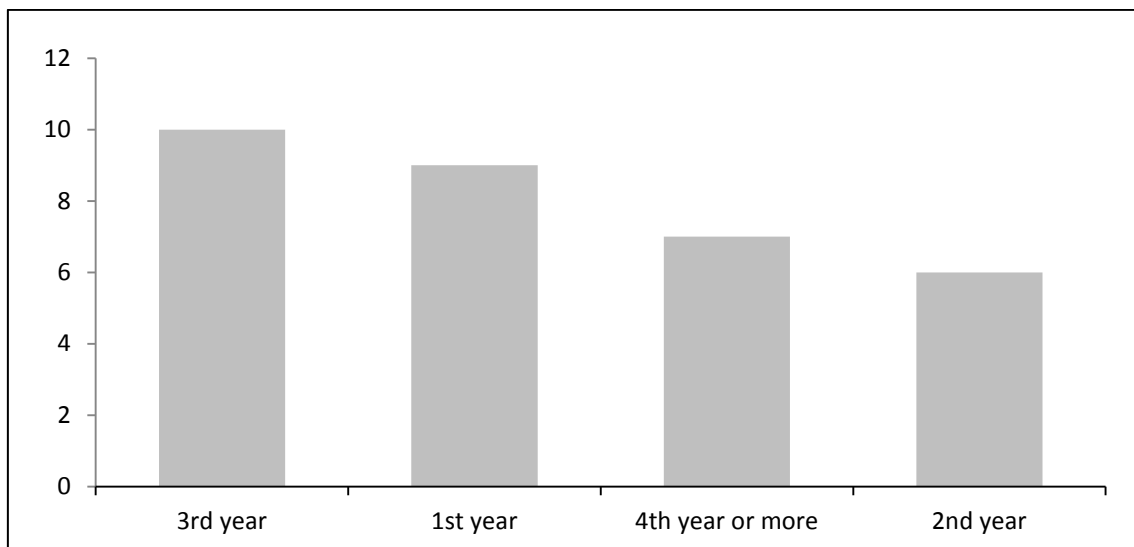


FIGURE 1 Study year ($n=32$)

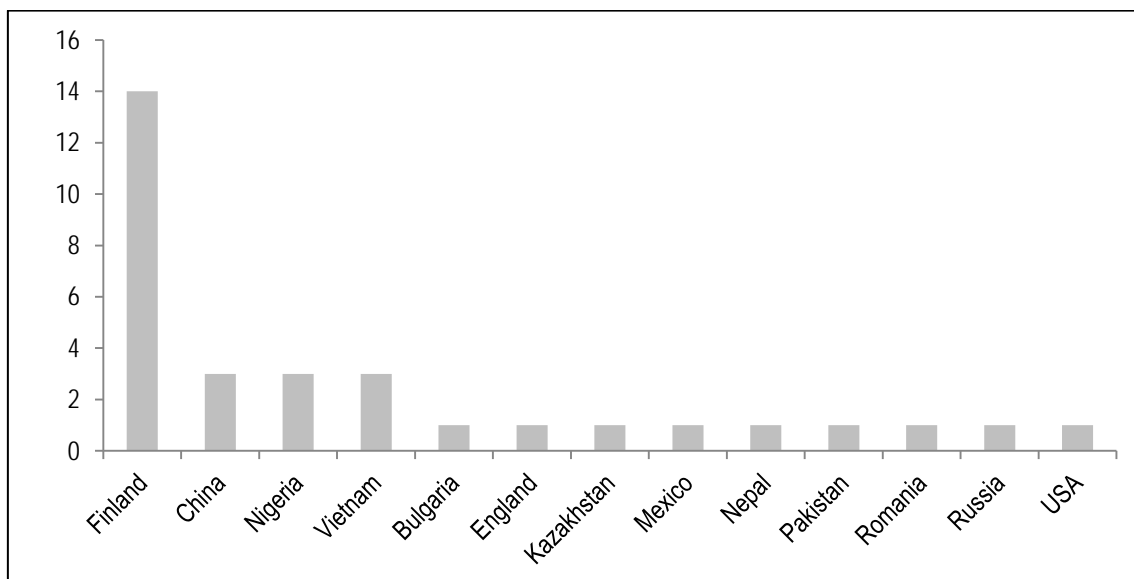


FIGURE 2 Respondents by home country ($n=32$)

Sustainable Development Competence

The majority of the respondents (84 %) did not know how to submit an environmental initiative in Oulu UAS. Similarly 93 percent of the respondents had never submitted an environmental initiative. Overall, the respondents were able to identify correctly most aspects (figure 3) of sustainable development; 15 percent of the respondents identified 'political' as an aspect of sustainable development, even though it is not one.

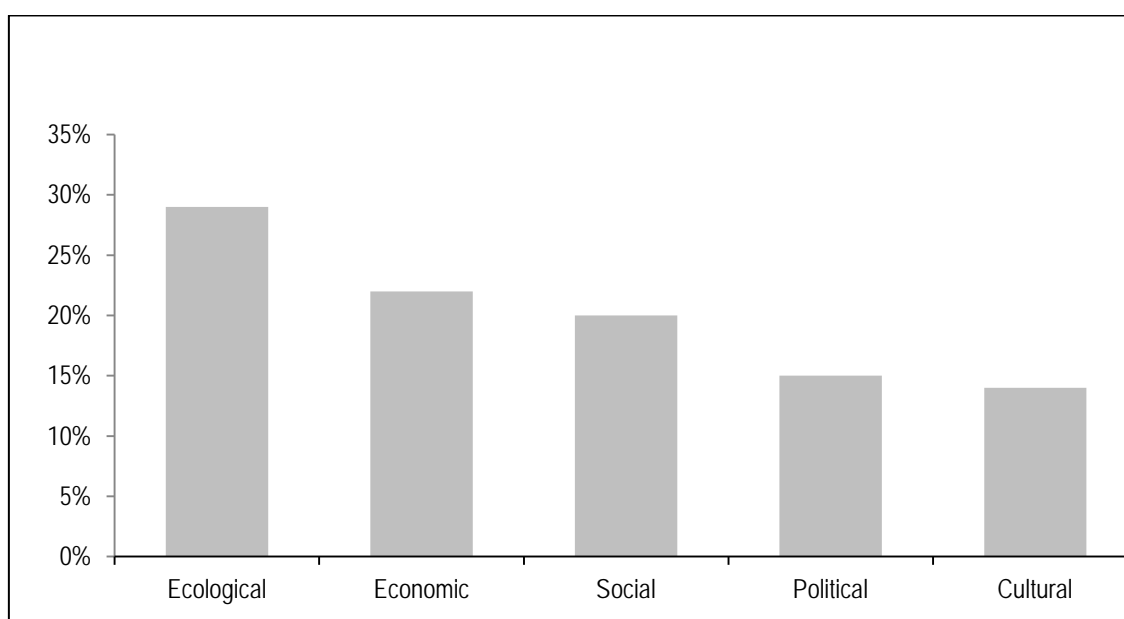


FIGURE 3 Aspects of sustainable development identified by respondents ($n=32$)

The majority of the respondents perceived sustainable development having something to do with environmental issues, such as, recycling, energy saving and efficiency or saving natural resources. Some respondents also thought that sustainable development is about ensuring the wellbeing of future generations. A few respondents considered sustainable development to be an unattainable ideal or an oxymoron. Full results can be found in appendix 2.

Table 1 shows the respondents attitudes towards sustainable development on a general level. Most respondents agreed that sustainable development is crucial

for the future of the planet and that sustainable development know-how is important for their future.

TABLE 1 Attitudes towards sustainable development

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know	Total
Sustainable development helps to secure the wellbeing of future generations	24	6	1	1	0	0	32
A smart organization is committed to sustainable development	17	11	3	0	1	0	32
Economical sustainability means efficient use of resources	17	11	2	1	0	1	32
Being international has a positive effect on the organization	9	17	4	0	0	2	32
Sustainable development is a normal part of everyday life	9	15	2	4	1	1	32
Strong expertise in sustainable development is vital in the working life	7	16	6	0	3	0	32
It is hard to understand the concept of socio-cultural responsibility	6	7	10	4	3	2	32

Only nine respondents were familiar Oulu UAS environmental guide. Likewise, 81 percent of the respondents were not familiar with Ykä (George) the environment dog.

Sustainable Development in Oulu University of Applied Sciences

Most students had not taken a course, compulsory or free choice, during their studies. If they had attended a course on sustainable development, they had attended it in the School of Business and Information Management.

14 respondents wanted to attend further courses, 14 respondents were unsure and two were unwilling to attend more courses.

Table 2 shows the respondents attitudes towards sustainable development work in Oulu UAS. The majority of the students agreed that sustainable development had been discussed during courses and that sustainable development issues are communicated in versatile ways. Furthermore, the students were interested in sustainable development work in Oulu UAs. They

also believed that bullying and discrimination should be addressed immediately. However there were several points that the students were unsure or ambivalent about, for example, sustainable development thesis topics, the schools environmental policy and the schools commitment to environmental management system work.

TABLE 2 Sustainable development work in Oulu UAS

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know	Total
Bullying and discrimination should be addressed immediately	21	6	2	0	1	2	32
Sustainable development has been discussed in the courses that I have attended in OUAS	11	12	3	2	1	3	32
Influencing values and attitudes is a part of a university education	10	14	2	0	1	5	32
My school pays enough attention to student services	7	15	5	2	1	2	32
My school is committed to environmental management system work	6	8	7	1	0	10	32
OUAS offers a sufficient amount of sustainable development courses	6	5	8	3	3	7	32
I can influence the environmental issues in my school	5	12	7	4	1	3	32
I know where the environmental issues are in Oiva	5	8	3	2	6	8	32
Sustainable development issues are communicated in versatile ways	4	14	6	0	1	7	32
I am familiar with the environmental policy of my school	3	9	9	1	4	6	32
I am not interested in sustainable development work in my school	2	7	3	6	11	3	32
There are enough of sustainable development topics available for thesis	2	3	9	2	3	13	32
During practical training, sustainable development issues are considered	0	7	4	5	5	11	32

The respondents were most interested in global responsibility, ethics, multicultural issues, organizational environmental communication, social media and responsible business. Conversely, there were a few topics that the respondents did not find at all interesting, such as, energy production, waste management and biodiversity.

TABLE 3 Sustainable development on an everyday level

	Well	Fairly well	Neither well nor poorly	Rather poorly	Poorly	I don't know	Total
Multiculturalism and internationalism	14	14	2	1	0	1	32
Reducing paper usage (double sided printing)	10	11	4	3	2	2	32
Communality and well-being	9	11	7	1	1	3	32
Safety	8	13	4	2	1	4	32
Guidance for printing and copying	8	10	8	2	2	2	32
e-guidance, thesis work for example	8	10	6	1	2	5	32
Energy saving (turning off lights, etc.)	8	9	6	4	1	4	32
e-Learning	8	6	7	5	2	4	32
Energy saving (IT-equipment)	7	14	3	4	1	3	32
Communication on bulletin boards (schools sustainable development work, Oulu UAS sustainable development work)	7	11	7	2	0	5	32
Guidance for recycling	7	10	8	4	1	2	32
Guidance for energy saving	7	10	5	4	2	4	32
Distance learning	5	8	5	3	0	11	32
Waste sorting	6	12	6	2	0	6	32
Recycling	5	15	3	2	0	7	32
Carpools	0	9	5	2	2	14	32

When asked about their schools everyday operations (table 3), the respondents felt that their school (School of Business and Information Management) was doing well in several issues: energy saving (IT equipment), waste sorting, multiculturalism and internationalism, communication on bulletin boards and e-guidance. There were not issues that the respondents felt that their school had not taken in to account. However, some respondents felt that the issue of e-learning had not been taken in to account and at the same time some were happy how the issue had been dealt with.

Feedback

Almost two thirds of the respondents had not taken a course on sustainable development during their previous studies. Figure 4 shows how much the respondents evaluated how much they had learned about sustainable development during their studies in Oulu UAS. 56 percent of the respondents evaluated that they have at least some thing about during their studies.

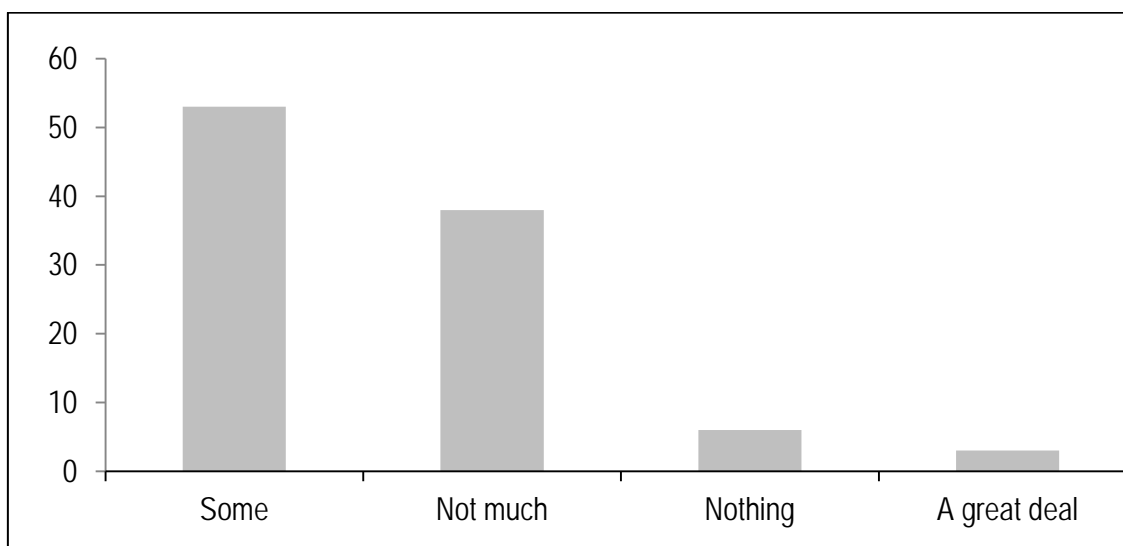


FIGURE 4 Sustainable development knowledge gained during studies

When asked how they, as a student, promoted sustainable development in Oulu UAS, most respondents admitted that they did very little or nothing to promote sustainable development. Some said they did practical things, such as, turn off lights when leaving a room or printing only when they really need to.

The respondents wished that sustainable development should be taught in a practical way, i.e. with practical examples during courses. Some of the respondents also wanted sustainable development to be a part of the curricula in all the courses. Full list of the responses can be found in appendix 2.

5 CONCLUSIONS

The age distribution of respondents reflects the sample since both youth and adult groups were included, also the gender distribution reflects this. Unfortunately only students of School Business and Information Management replied to the questionnaire, it would have been useful to have responses from other schools also.

The respondents were uncertain how to submit an environmental initiative, this would also explain why only so few had submitted one. Maybe a direct link in the student intranet (Oiva) front page would be useful. Currently the link is under the sustainable development heading. Similarly only a few respondents were familiar with the Oulu UAS environmental guide and Ykä (George) dog. It would be beneficial if the environmental issues had their own heading under the "Information about Studies" main heading, unlike now, when the environmental issues are under the subheading "How to Influence Your Studies and Quality Work" In their study in 2011 Nygård, Raappana and Rauhio (2011, 9) had similar results, only 13 percent of the Finnish students knew how to submit an environmental initiative.

The respondents' ability to identify the aspects of sustainable development was over all good, but possibly there was confusion between the terms since only a small part of the respondents came from a country where English is the main language.

Most of the respondents associated sustainable development with environmental things, such as recycling and energy efficiency. Other aspects of the concept were rarely mentioned. Also a strong trend in the responses was that sustainable development was seen as a way to preserve the planet for the future generations. Only a few respondents had a negative view on sustainable development. Generally, the respondents view on sustainable development was positive. Nygård, Raappana and Rauhio (2011, 8) had similar results.

Only 14 respondents had taken a compulsory course on sustainable development and six had taken a free choice course. This may be due to the changes in curriculum, for instance, there has not been compulsory courses on green thinking (or similar) for all year groups. Some of students were also uncertain if they wanted to take part in further courses, this could be due to general lack of interest of the students find other courses more interesting. However, almost half were willing to attend further courses. Their Finnish counterparts were more reluctant to attend further courses in sustainable development; only 15 percent wanted to attend further courses (Nygård, Raappana & Rauhio, 2011, 10)

The respondents generally felt that sustainable development issues had been dealt with in positive way during their studies. The students felt that sustainable development had been discussed during their courses and that the issues are communicated in versatile ways. Nevertheless, the students felt that sustainable development issues are not considered during practical training. Some of the terms used in the questionnaire may have been too impalpable, i.e. environmental management system work; therefore the students did not know how to answer the questions. Simpler terms may have produced more reliable results. On a positive note, the students felt that they could influence environmental issues in their school and that the school took good care of the student services.

The respondents' field of study influenced which topics the respondents found most interesting; global responsibility, ethics, multicultural issues and responsible business were most popular with the respondents. The results would have been more diverse if there had been respondents from other schools as well.

When asked to evaluate their schools everyday operations, the respondents did not find a single operation to be complete a failure or a success. Most operations mentioned in the questionnaire had good and bad marks. For instance, e-learning, 14 students gave it a good mark, seven a bad mark, four gave it an 'I don't know' and seven were ambivalent. This could be because,

students are not aware all the services available for them. There were few points that the respondents evaluated to be good, such as, multiculturalism and internationalism and reducing paper usage.

Most respondents had not had any previous sustainable development courses before their studies in Oulu UAS. When comparing those who had not had any previous training and how much they had learned about sustainable development during their studies, five percent felt they had learnt 'a great deal', 52 percent felt they had learnt 'some', eight percent felt they had learnt 'not much' and only five percent felt they had learnt 'nothing'. Overall the results were similar with both groups (students with previous studies on sustainable development and students without previous studies). It could be concluded, that the sustainable development courses in Oulu UAS offer something to all students.

Most respondents felt that they did not promote sustainable development in Oulu UAS. The ones that felt that they promoted sustainable development felt that they did it by doing practical things or leading by example. Possibly, the students had hard time recognising what could be considered promoting sustainable development. List of practical examples could have been more effective.

Students thought that sustainable development should be taught in a more practical way in Oulu UAS, not solely through theory.

6 DISCUSSION

The amount of responses for this student survey was adequate. It would have been beneficial to get responses from all the English speaking programmes; since now, the results of the survey only apply to School of Business and Information Management. Adding a link to the student intranet could have resulted in more responses.

It was clear from the students' responses, that they have a good all-around knowledge on sustainable development and the schools environmental issues, but find it challenging to find the information. Simple steps could be taken to make the information more accessible for the students. Direct link in the student intranet front-page or by having 'Environmental Issues' its own heading in 'Information about Studies' section in the student intranet, would make the environment issues more accessible for the students.

Any future studies on the subject should include all the students at the same time.

REFERENCES

Aalto University: Sustainable development. Date of retrieval 2nd April 2014
http://arts.aalto.fi/en/about/sustainable_development/

Berthon, P., Critenden, V., Desautels, P. & Pitt, L. Get the most out of green IT
Industrial Management. Sep2010, Vol. 52 Issue 5, p14-18

Computer Weekly, Upton Sheila:
Green IT: How to deliver value to your business. Date of retrieval 2nd April 2014
<http://www.computerweekly.com/feature/Green-IT-How-to-deliver-value-to-your-business>

Dale, A. 2001. At the Edge: Sustainable Development in the 21st Century.
Vancouver, BC, CAN: UBC Press.

Murugesan, S. 2008. Harnessing Green IT: Principles and Practices.
IT Professional (Volume: 10, Issue: 1), 24-33.

Nygård J., Raappana V. & Rauhio V. 2011. Tutkimus Kestävästä Kehityksestä
Oulun Seudun Ammattikorkeakoulun Opiskelijoille, Oulu University of Applied
Sciences

Oulu University of Applied Sciences: Sustainable Development programme
2015 for Oulu UAS, 2012

United Nations: Sustainable Development in the 21st Century (SD21). Date of retrieval 2nd December 2013

<http://sustainabledevelopment.un.org/sd21.html>

The Sustainable Development Commission. Date of retrieval 2nd December 2013

http://www.sd-commission.org.uk/pages/history_sd.html

United States Environmental Protection Agency (EPA). Date of retrieval 5th April 2014

<http://www.epa.gov/epawaste/conservation/materials/recycling/donate.htm>

UN Documents (Our Common Future). Date of retrieval 2nd December 2013

<http://www.un-documents.net/ocf-02.htm>

Wikipedia: Kestävä Kehitys. Date of retrieval 1st April 2014

http://fi.wikipedia.org/wiki/Kest%C3%A4v%C3%A4_kehitys

Wikipedia: Waste Electrical and Electronic Equipment Directive. Date of retrieval 10th April 2014

http://en.wikipedia.org/wiki/Waste_Electrical_and_Electronic_Equipment_Directive



1. Background information

1. Gender

- ☐ Female
- ☐ Male

2. Birth year

3. School

- ☐ School of vocational teacher education
- ☐ School of music, dance and media
- ☐ School of business and information management
- ☐ School of renewable natural resources
- ☐ School of health and social care
- ☐ School of engineering

4. Study year

- ☐ 1st year
- ☐ 2nd year
- ☐ 3rd year
- ☐ 4th year or more

5. Home country

2. Sustainable Development Competence

6. Do you know how to submit an environmental initiative in Oulu UAS

☐ Yes

☐ No

7. Have you ever submitted an environmental initiative?

☐ Yes

☐ No

8. Which of the following are aspects of sustainable development

☐ Ecological

☐ Economic

☐ Social

☐ Cultural

☐ Political

9. What does the phrase 'Sustainable Development' brings to mind?

10. Please choose one option

	Totally agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know
Sustainable development helps to secure the wellbeing of future generations						
Strong expertise in sustainable development is vital in the working life						
Sustainable development is a normal part of everyday life						
Being international has a positive effect on the organization						
A smart organization is committed to sustainable development						
Economical sustainability means efficient use of resources						
It is hard to understand the concept of socio-cultural responsibility						

11. Are you familiar with the Oulu UAS environmental guide?

- ☐ Yes
☐ No

12. Are you familiar with Ykä (George) -dog?

- ☐ Yes
☐ No



3. Sustainable development in Oulu University of Applied Sciences

13. I have taken a compulsory course on sustainable development in Oulu UAS

- ☐ Yes
- ☐ No (please move to question 16)

14. I have taken a free choice course on sustainable development in Oulu UAS

- ☐ Yes
- ☐ No (please move to question 16)

15. In what school did you attend the course/courses?

- ☐ School of vocational teacher education
- ☐ School of music, dance and media
- ☐ School of business and information management
- ☐ School of renewable natural resources
- ☐ School of health and social care
- ☐ School of engineering

16. Please choose one option

	Totally agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know
Sustainable development has been discussed in the courses that I have attended in OUAS						
OUAS offers a sufficient amount of sustainable development courses						
During practical training, sustainable development issues are considered						
There are enough of sustainable development topics available for thesis						
Influencing values and attitudes is a part of a university education						
Sustainable development issues are communicated in versatile ways						
I am not interested in sustainable development work in my school						
I know where the environmental issues are in Oiva						
I am familiar with the environmental policy of my school						
My school is committed to environmental management system work						
My school pays enough attention to student services						
Bullying and discrimination should be addressed immediately						
I can influence the environmental issues in my school						

17. I want to take part in further courses in sustainable development in Oulu UAS

- ☐ Yes
☐ No
☐ I don't know

18. I am most interested in the following topics:

	Totally agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know
Energy production						
Energy efficiency						
Ethics						
Global responsibility						
Green IT						
Waste management						
Sustainable procurement						
Multicultural issues						
Organizational environmental communication						
Social media						
Occupational well-being						
Occupational safety and health						
Responsible business						
Environmental management						
Environmental and quality systems						
Environmental legislation						
Biodiversity						
Other						

19. How well are the following issues taken in to account in your schools everyday operations

	Well	Fairly well	Neither well nor poorly	Rather poorly	Poorly	I don't know
Energy saving (turning off lights, etc.)						
Energy saving (IT-equipment)						
Distance learning						
Waste sorting						
Recycling						
Carpools						
Multiculturalism and internationalism						
Guidance for energy saving						
Guidance for printing and copying						
Guidance for recycling						
Reducing paper usage (double sided printing)						
Safety						
Communality and well-being						
Communication on bulletin boards (schools sustainable development work, Oulu UAS sustainable development work)						
e-Learning						
e-guidance, thesis work for example						

4. Feedback

20. Have you taken course/courses on sustainable development during your previous studies?

- ☐ Yes
- ☐ No

21. How much have you learned about sustainable development during your studies in Oulu UAS?

- ☐ A great deal
- ☐ Some
- ☐ Not much
- ☐ Nothing

22. In your own words, how do you, as student, take part in promoting sustainable development in Oulu UAS?

23. How should sustainable development taught in Oulu UAS?

1. Background Information

1. Gender

	<i>n</i>	%
Female	17	53,1
Male	15	46,9
	32	100

2. Birth year

Year	<i>n</i>	Age
1971	1	43
1974	1	40
1978	2	36
1982	2	32
1984	1	30
1985	1	29
1986	2	28
1987	1	27
1988	1	26
1989	2	25
1990	1	24
1991	6	23
1992	2	22
1993	4	21
1994	4	20
	31*	

* One answer was excluded because it was not a numeric value

3. School

	<i>n</i>	%
School of Vocational Teacher Education	0	0
School of Music, Dance and Media	0	0
School of Business and Information Management	32	100
School of Renewable Natural Resources	0	0
School of Health and Social Care	0	0
School of Engineering	0	0
	32	100

4. Study Year

	n	%
1st year	9	28,1
2nd year	6	18,8
3rd year	10	31,3
4th year or more	7	21,9
	32	100

5. Home Country

	n	%
Bulgaria	1	3,1
China	3	9,4
England	1	3,1
Finland	14	43,8
Kazakhstan	1	3,1
Mexico	1	3,1
Nepal	1	3,1
Nigeria	3	9,4
Pakistan	1	3,1
Romania	1	3,1
Russia	1	3,1
USA	1	3,1
Vietnam	3	9,4
	32	100

2. Sustainable Development Competence

6. Do you know how to submit an environmental initiative to Oulu UAS

	%	n
Yes	16	5
No	84	27
	100	32

7. Have you ever submitted an environmental initiative?

	n	%
Yes	2	6,3
No	30	93,8
	32	100

8. Which of the following are aspects of sustainable development?

Ecological	29 %
Economic	22 %
Social	20 %
Cultural	14 %
Political	15 %
	100 %

9. What does the phrase 'Sustainable Development' brings to your mind?

"There can be either 'sustainability' or 'development', both at the same sentence is a hoax."

"Sustainable Development is a basic policy of a country"

"Not only meet the needs of contemporary people and future generations not to pose a threat to."

"Secure the next generation"

"It helps us to protect our environment against dangerous hazards that might cause harm to our community."

"Something perpetual"

"The kind of development (change, thinking of it as an evolution of something), that is designed to work in a long term and respecting as many aspects as it is possible. These aspects are concerning the whole idea of every single thing that interacts with the subject that is developing. Thinking about a company, the subject is the firm itself and the aspects are the employees, the owner, the suppliers the customers the shareholders, the competitors, the place, the products, the waste, and the list goes on. Sustainable Development is so seas to say but so hard to understand and correctly apply, that many companies, persons, and organisations prefer to think only about nature and still in most of the cases fail their attempts to fulfil it."

"Development that does not affect very much the environment."

"Green thinking, recycling,"

"Having a suitable future state able to live in and survive."

"Growth that doesn't hurt the environment"

"Environmental issues, natural resources"

"It's about living so that our needs are filled but not harming the future and their needs."

"No idea?"

"Energy efficient products. Long future plan to reduce our abuse of the natural recourses."

"Making sure that communities/companies improve the way they behave/produce, in the direction that would help to preserve nature/cultures and their resources."

"A way of thinking which preserves the planet for the future generations. Also, "green" thinking comes to mind."

"Being green and sustaining the world for the coming generations"

"Some are using the term "Sustainable development" to describe the growth of the company/economy that is sustainable a.k.a constant, thus misguiding the public."

Sustainable development to me does not mean growth of the company/economy but its evolution/improvement into something more efficient. Something that can sustain itself on the limited resources that it

has."

"Being in ecologically friendly and think about own consumption habits"

"To retain an improving growth"

"Human development but ensuring the sustainability of natural systems and the environment."

"The development with concerning about impact on environment, human."

"In my mind it refers to actions that are implemented with regards to long-term goal achievement that can be up kept without exerting too much extra resources. In other words if it were a dynamo, it would continue to grow, flourish and maintain development without having to include too much extra input. Actions that are anticipatory of the good of society. There are socio-economic, cultural and ecological aspects to it that are maintainable regardless of politico-economic conditions."

"Using alternative sources of energy to nuclear power or fossil fuels. Using electricity and water sparingly. Attempting to retain the planet in a condition suitable for human life."

"Environment air condition culture sustainable"

"Using resources in a way that they will last for the future generations as well."

"Being cooperative with environment so both human can nature can be benefited throughout generation to generation."

"Biology lessons, greenhouse effect and carbon footprint. Also makes me remember how everyone should take care of environment."

"To take care of today in order to have better tomorrow"

"Something that develops all the time."

"A better future"

10. Please choose one option

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know	Total
Sustainable development helps to secure the wellbeing of future generations	24	6	1	1	0	0	32
Strong expertise in sustainable development is vital in the working life	7	16	6	0	3	0	32
Sustainable development is a normal part of everyday life	9	15	2	4	1	1	32
Being international has a positive effect on the organization	9	17	4	0	0	2	32
A smart organization is committed to sustainable development	17	11	3	0	1	0	32
Economical sustainability means efficient use of resources	17	11	2	1	0	1	32
It is hard to understand the concept of socio-cultural responsibility	6	7	10	4	3	2	32

11. Are you familiar with the Oulu UAS environmental guide

	n	%
Yes	9	28,1 %
No	23	71,9 %
	32	100 %

12. Are you familiar with Ykä (George) dog

	n	%
Yes	6	18,8
No	26	81,3
	32	100

3. Sustainable Development in Oulu University of Applied Sciences

13. I have taken a compulsory course on sustainable development in Oulu UAS

	n	%
Yes	14	43,8
No	18	56,3
	32	100

14. I have taken a free choice course on sustainable development in Oulu UAS

	n	%
Yes	6	18,8
No	26	81,3
	32	100

15. In what school did you attend the course/courses

School of Vocational Teacher Education	0
School of Music, Dance and Media	0
School of Business and Information Management	25
School of Renewable Natural Resources	0
School of Health and Social Care	0
School of Engineering	0
	25*

*Question was not compulsory

16. Please choose on option

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know	Total
Sustainable development has been discussed in the courses that I have attended in OUAS	11	12	3	2	1	3	32
OUAS offers a sufficient amount of sustainable development courses	6	5	8	3	3	7	32
During practical training, sustainable development issues are considered	0	7	4	5	5	11	32
There are enough of sustainable development topics available for thesis	2	3	9	2	3	13	32
Influencing values and attitudes is a part of a university education	10	14	2	0	1	5	32
Sustainable development issues are communicated in versatile ways	4	14	6	0	1	7	32
I am not interested in sustainable development work in my school	2	7	3	6	11	3	32
I know where the environmental issues are in Oiva	5	8	3	2	6	8	32
I am familiar with the environmental policy of my school	3	9	9	1	4	6	32
My school is committed to environmental management system work	6	8	7	1	0	10	32
My school pays enough attention to student services	7	15	5	2	1	2	32
Bullying and discrimination should be addressed immediately	21	6	2	0	1	2	32
I can influence the environmental issues in my school	5	12	7	4	1	3	32

17. I want to take part in further courses in sustainable development in Oulu UAS

	n	%
Yes	14	43,8
No	4	12,5
I don't know	14	43,8
	32	100

18. I am most interested in the following topics

	Strongly agree	Somewhat agree	Neither agree nor disagree	Somewhat disagree	Strongly disagree	I don't know	Total
Energy production	7	8	7	6	2	2	32
Energy efficiency	6	15	6	2	1	2	32
Ethics	9	17	3	1	1	1	32
Global responsibility	12	16	1	0	1	2	32
Green IT	7	8	9	3	1	4	32
Waste management	8	11	3	2	6	2	32
Sustainable procurement	8	13	5	2	2	2	32
Multicultural issues	17	11	2	0	1	1	32
Organizational environmental communication	10	15	3	0	2	2	32
Social media	11	13	6	0	0	2	32
Occupational well-being	13	8	5	2	2	2	32
Occupational safety and health	12	9	5	2	2	2	32
Responsible business	15	10	2	1	2	2	32
Environmental management	12	8	5	3	1	3	32
Environmental and quality systems	10	8	7	2	2	3	32
Environmental legislation	6	14	6	3	1	2	32
Biodiversity	8	9	7	5	1	2	32
Other	2	7	6	0	1	16	32

19. How well are the following issues taken in to account in your schools everyday operations

	Well	Fairly well	Neither well nor poorly	Rather poorly	Poorly	I don't know	Total
Energy saving (turning off lights, etc.)	8	9	6	4	1	4	32
Energy saving (IT-equipment)	7	14	3	4	1	3	32
Distance learning	5	8	5	3	0	11	32
Waste sorting	6	12	6	2	0	6	32
Recycling	5	15	3	2	0	7	32
Carpools	0	9	5	2	2	14	32
Multiculturalism and internationalism	14	14	2	1	0	1	32
Guidance for energy saving	7	10	5	4	2	4	32
Guidance for printing and copying	8	10	8	2	2	2	32
Guidance for recycling	7	10	8	4	1	2	32
Reducing paper usage (double sided printing)	10	11	4	3	2	2	32
Safety	8	13	4	2	1	4	32
Communality and well-being	9	11	7	1	1	3	32
Communication on bulletin boards (schools sustainable development work, Oulu UAS sustainable development work)	7	11	7	2	0	5	32
e-Learning	8	6	7	5	2	4	32
e-guidance, thesis work for example	8	10	6	1	2	5	32

20. Have you taken a course/courses in sustainable development during your previous studies

	n	%
Yes	11	34,4
No	21	65,6
	32	100

21. How much have you learned about sustainable development during your studies in Oulu UAS

	n	%
A great deal	1	3
Some	17	53
Not much	12	38
Nothing	2	6
	32	100

22. In your own words, how do you, as a student, take part in promoting sustainable development in Oulu UAS

"Talk my ass off about it..."

"----"

"just do what should the student do, and also to be a citizen, do our duty"

"energy saving"

"By involving in different activities that can create awareness of how we as a student can protect the school against hazards."

"I don't"

"One day I may open a company THEN I will do"

"Courses, participating in certain activities, having initiatives."

"I will take part on the recycling and sustainable development matters the best I can on individual level."

"It is a topic that isn't spoken about as much as it should be. It would be better to have more specific courses or classes dedicated to talking about this subject, this would be the best place to be able to promote and discuss sustainable development in my opinion."

"By learning more and the applying this information"

"----"

"I don't know."

"Do my own part"

"None at all. Sorry"

"I am not active on this."

"I really don't."

"I don't."

"Only through the environmental aspect of it. I don't waste things, recycle, encourage others to do the same etc. etc. With other students we raise the question on sustaining the environment in quite many lessons to spread the influence."

"Just trying to follow the guidance lines on sustainably, and I strongly believe that even one person makes a difference"

"try to do what is right"

"Switching lights off when leaving room, if it's empty. And also turn off my computer when finished work instead of logging off."

"Save water, food, paper..."

"I only promote it through my responsible actions as a consumer / student so that I don't burden others later.

I print only what I need, if it is absolutely necessary

I sort my trash when I eat, I take my own cup for tea

I turn out the lights if I am the last one to leave the room and my computer is turned off when I leave. "

"Don't particularly"

"do the trainee in the field of the sustainable development area."

"I don't know"

"by different seminars and voluntary work."

"I don't promote sustainable development in Oulu UAS."

"I an activist of environmental pollution"

"I don't know"

"Take part in projects, participate in elective courses in this field, try to find thesis work on this topic."

23. How should sustainable development taught in Oulu UAS

"We could first wake up to the current circumstances to see how critical the situation truly is... (And to recognize that it is us, the western business culture, that truly over consumes and pollutes everything)Turning off the lights is just not enough; we need fundamental change in our thinking and especially to business thinking... We are already living in the middle of irremediable resource delectation and pollution, but still business is only motivated and measured by economic profits... Our school could be brave enough to walk in front lines giving TRUE education about environmental and social sustainability - not just that green washing which is helplessly too late. Thanks :)"

"not yet"

"more practical"

"by introducing different shows that will really catch the attentions of student"

"thoroughly"

Should be considered in every course and every course should take care of those aspects that relate to each of them, and make it clear that it is not only green thinking to be sustainable.

"Workshops"

"On courses, by leaflets"

"As stated above, a more direct course or more in depth class discussions related to the topic."

"With practical examples"

"dunno"

"I don't know how it's taught now, so I don't know if it would be changed."

"It honestly isn't the first priority. For example in business school, most of the people have no idea what business is really about etc. then there are millions of marketing courses overlapping. There is something wrong with the curriculum, and not much students can do about it."

"As not a forced thing of the future more as a great and growing business opportunity."

"I do not know."

"Explain the definition and everything it entails but without overly promoting green thinking. It should also be taught that the businesses that promote sustainability, transparency and CSR are mostly doing it because it is expected of them and required by the consumers, instead of actually being interested in it. It is easier to stay ahead of regulations than having to change procedures every time a new regulation is announced. I believe it to be a load of hypocritical bullshit and everyone who has studied marketing should see right through it and if not, it should be taught to them."

"The Green Thinking course is enough."

"It should be inspiring rather than something everyone considers a compulsory thing to do/study. It should be more based on real life examples all around us rather than just theory and textbooks."

"More practically and students have to be involved all the time"

"In a convenient way"

"More courses should be included in curriculum."

"I have no idea"

"As a more comprehensive package, This questionnaire asks about sustainable development, should it have asked about Green Thinking. This is the course I have taken and the only one on offer for BIT students."

"I hope this answer helps."

"Courses and online guides."

"Given some current issues due to the sustainable development .and from this report. we could learn about the how to solve with it"

"Maybe make it a compulsory course for students."

"In a practical way."

"There could be more compulsory courses in Oulu UAS or other teachers could also mention about environmental issues when talking about their topic."

"In a way to create awareness sustainability"

"I don't know"

"Courses, projects, thesis work."