

# SUSTAINABLE DEVELOPMENT WITH ATTITUDE

STUDENTS' ATTITUDES TOWARDS EDUCATION IN SUSTAINABLE  
DEVELOPMENT AT THE SCHOOL OF BUSINESS, JAMK

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Abstract <p>The study investigated to what extent the education of sustainable development at the JAMK School of Business influences students. The goals were to measure students' attitudes towards the education in sustainable development (ESD) delivered by JAMK, and how it has shaped their attitudes towards sustainability issues, and to explore the commitment level of JAMK School of Business to deliver ESD.</p> <p>The mixed methods of quantitative and qualitative research with a triangulation approach were selected in order to achieve the desired outcomes of the study. The survey was sent to 108 students, yet 50 of them answered the survey questions. The author categorized the focused group into two, the second year students and the final year students. There are 25 students for each group. An in-depth interview with five random students was also conducted to gain a better understanding of the students' perspectives. Secondary study, focusing on studying level commitment of JAMK School of Business to deliver ESD across both the formal and informal curricula, was implemented through a recent report for PRME. The data was collected and categorized into the two perspectives for a cross verification. A statistical analysis of the data using Excel was then conducted.</p> <p>The results indicate that the majority of the students surveyed have positive attitudes towards ESD delivered by JAMK and a great awareness of general sustainability issues. In order to enhance the students' competencies of sustainable development and bring greater positive attitudes and behavior, the author suggested that JAMK School of Business improve the infrastructures and learning environments, provide a clear curriculum development and management process, comprehensive ESD curriculum models and finally increase efficient communication channels with students for informal curriculum activities.</p>		
Keywords education, sustainable development, students, awareness, career planning		
Miscellaneous		

## **LIST OF ACRONYMS**

EFMD: The Management Development Network

ESD: Education for Sustainable Development

EU: European Union

IUCN: International Union for Conservation of Nature

PRME: Principles for Responsible Management Education

UCLG United Cities and Local Governments

UN: United Nations

UNEP: The United Nations Environment Programme

UNESCO United Nations Education, Scientific and Cultural Organisation

WWF: World Wide Fund

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# 1 Introduction

The past decades have seen the rapid activism towards sustainable development amongst governments, institutes and businesses organizations. More and more organizations and companies are nowadays striving to achieve sustainability within their operations and businesses. These potential future employers would appreciate and value new graduates who are well equipped with knowledge and skills to implement these practices at work. Sustainable literacy is one of the expected outcomes from graduated students regardless of their majors. A research led by Sayce (2008) reveals the importance of sustainable literacy in recruitment and promotion criteria among more than half of employers surveyed and the larger the employers are, the more demanding these company are from especially recent graduates.

Therefore, education for sustainable development has been taken into account especially by most higher education institutions. At this level of study, students have been preparing themselves before officially entering the labor market and sustainable development will have been, in all likelihood, involved in some way in their career path. For this reason, these higher education institutions play a central role in educating and developing the future leaders, professionals and global citizens and more importantly provide them with greater knowledge and skills to embrace Mother Nature, create a sustainable global economy both financially and environmentally, and promote equal living standards for everyone. UNESCO (2012, 33) declared between 2005 and 2014 as the Decade of Education for Sustainable Development, which encourage all education institution to include a focus on sustainability and sustainable development into the schools' curriculums.

Two such examples of institutes playing a central role in aligning themselves to member networks, are PRME (Principles for Responsible Management Education) and EFMD (European Foundation for Management Development) which JAMK School of Business has become a member of since 2011. While PRME has the mission to promote responsible management education, EFMD emphasizes educating responsible leaders with better senses of social and

environmental aspect. This has shown that JAMK School of Business has a certain level of commitment towards providing students with great education of sustainable development. However, integrating sustainable development courses in both formal and informal curriculum in the business studies is believed to a great challenge (Von der Heide & Lamberton, 2011, 670). This highlights a central issue of how educational institutes and JAMK School of Business particularly implement education for sustainable development effectively across the curriculum to foster positive influences on students. This issue is worthy of research.

In order to tackle the problem, it is crucial to tackle the phenomenon as a grounded piece of research and focus the study from the students' perspective and observe how they, actually, perceive sustainable development education. However, it appears there is a lack of in-depth study on such matters at higher education institutions in Finland and at JAMK particularly. This lack of observable information was the starting point for the author to process the thesis topic. The research question therefore drawn from the research problem could be:

To what extent does the education of sustainable development at JAMK School of Business influence students in terms of their attitudes towards sustainability?

The objectives were defined to deal with the research question as follows:

- To measure how students with different backgrounds and experiences, perceive education for sustainable development from JAMK. And how has it shaped their thinking and changed their attitude towards sustainability issues in terms on their decision making from personal daily life, work and future planning.
- To study the commitment level of JAMK School of Business in delivering education of sustainable development across both formal and informal curricula.

## **2 Sustainable development, Education and Behaviour change**

### **2.1 Sustainable development**

#### **2.1.1 Definition of Sustainable development**

The early idea of "Sustainable Development" threw the attention of the world leaders back in the 1970s. For the last few decades, there are hundreds of definitions of sustainable development defined by different scholars, organizations, and governments (Schaltegger, Burritt & Petersen, 2003, 21). Daly (1991) argues that lack of a clear-cut definition of the term "sustainable development" is not necessarily negative, as it encourages all individuals to share their own perceptions of sustainable development. The perceptions can vary amongst different people and organizations. The most well-known one was described by Brundtland Commission (1987, 43) on the Our Common Future report: "Sustainable development is development that meets the needs of the present generation without compromising the ability of future generations to meet their own needs."

Shah (2007, 14) clarifies them in a simpler way to understand in the similar sense as follows:

"Sustainable development represents a process and a framework for redefining social progress and redirecting our economies to enable all people to meet their basic needs and improve their quality of life, while ensuring that the natural systems, resources and diversity upon which they depend are maintained and enhanced, both for their benefit and for that of future generation."

Schaltegger, Burritt, Petersen (2003, 22) claims that "sustainability is the goal of the process of sustainable development". Sustainability encourages every individuals to link economic, environmental and social dimensions in every aspects of life from decision making for personal daily life to working environment and also future planning. (Shah, 2007, 15)



The terms sustainable development, sustainable growth and sustainable use are supposed similar by many people and they have used them synonymously. In fact, they are different at certain levels. While sustainable growth implies that things can stop growing at some points and sustainable use generally refers to renewable resources. (IUCN, UNEP, WWF ,1991)

### **2.1.2 Four pillars of sustainable development**

The Our Common Future report (Brundtland, 1987, 14) mentioned the 3 majors pillars of sustainable development which are environment protection, social equity and economic development and their close relationship. The sustainable development model of those 3 pillars is widely known and used as an approach to sustainability. However, a recent report by The United Cities and Local Governments (Agenda 21 Culture, 2010, 4.) shows the concern about the liability of this approach when applying for the our society nowadays. It argues to include culture as the fourth pillar because culture is one key factor to determine how people act and they are directly get involved in the development. The United Cities and Local Governments officially declared culture as the fourth pillar of sustainable development after the policy statement prepared by the Committee on Culture was approved in November 2010.

#### **Environment dimension:**

The environment has been heavily damaged from human activities and now put under severe strain. The world is now facing global environmental challenges including climate change, a slump in non-renewable resources, biodiversity decline, growing population and so forth. The causes of what have been mentioned clearly have certain relations with economic, social and cultural impacts. Goodland (1995,3) categorizes the concept of environment sustainability into two which are the source side and the sink side. While source side refers to the use of renewable and non renewable resources, the sink side are pollution and waste emission. He firmly confirms the importance of keeping balance between them two in an effort to improve human well-being without damaging the planet and that people should learn to live within what the biophysical environment has to offer and maintain it. As could be seen, the ultimate purpose of this environmental pillar is to protect and secure the natural environment as well as physical environment and it could be greatly achieved through wise choices and proper use of natural resources.

World Youth Alliance (2012) emphasizes the responsibilities and belief of people in the battle of protecting the natural environment and that the goals of development and environment protection always go hand in hand.

**Economic dimension:**

The economic sustainability refers the ability to make profit out of business without bringing social and environment issues which may have impacts on the long-term strategy of the company. That involves business process and using the company's big five capitals which are "natural capital, human capital, social capital, financial capital and finally manufactured capital". Those are for the company's own good and also for the community where it operates in. (Waniczek & Werderits 2006, 65) (Harris, 2003, 2)

In the sustainable development policy and guide by EEA Financial mechanism & The Norwegian Financial Mechanism (2006), it suggests the economy plays an important role for the global pursuit of sustainable development and equip efficient tools to make choices for sustainable development especially in the battle with poverty, only if it is used properly. The report also clearly emphasizes that economic growth does not necessarily signify the improvement for sustainable development, especially when it excludes reducing environmental impacts. It is also the fact that the economic development has been considered as the main goal while environment is unfortunately the tool to reach that goal by exhausting the supplies of natural resources.

**Social dimension:**

Even though this social pillar has drawn a lot of attention from a large community of interested parties during the last couple of years, there appears to be less specific definitions for social sustainability due to the fact that the approaches to this social dimension are rather broad. Gilbert (1996) indicates that the ultimate goal of the pillar is to pursue a good quality of life for everyone and that basics needs of human being such as food, water, shelter, clothing and education should be easily accessed. Other aspects of society such as elimination of poverty (Goodland, 1994, 276), anti discrimination and social security entitlement are also included as main goals to maintain a sustainable society (EEA Financial mechanism, 2005).

Torjman (2000) highlights the importance in keeping the balance of this social dimension, environmental dimension and economic dimension because

human well-being is clearly hard to be sustained in an unhealthy environment and undynamic or unstable economy.

**Cultural dimension:**

Rio+20 UN conference recognized the roles of all cultures in the humankind development and Earth protection and call for a comprehensive approach to sustainable development with the fourth pillar of culture included. A report of this conference was published with the title of " Realizing the Future We Want for All" (UN, 2012, 27) addresses the roles of every single person in promoting their own cultures and allows each other to show their cultures in while keeping the harmony and showing respect without judging or harming them in order to maintain "cultural diversity, and natural heritage" and it can also be done through "fostering cultural institutions, strengthening cultural and creative industries, and promoting cultural tourism".

**2.1.3 Weak sustainability versus strong sustainability**

People have different perceptions about the relationships between the mentioned pillars of sustainable development, which logically map out different goals of sustainable development in their minds (Rohweder, 2007, 24). Those relationships was described by Huckle and Sterling (1996, 9) as two forms of sustainability which are strong and weak and they refers the inconsistency within sustainable development. To be precise, it is more about compromises between economics and environmental groups (Von der Heide & Lamberton, 2011). These two values shift their positions from strong to weak and weak to strong sustainability.

*Weak sustainability:* assumes that human capital is more important and can substitute natural capital (Davies, 2013, 115) . That means business growth and prosperity is at the top priority (Ayres et al, 2001, 156), and using natural resources following by rules and controls serves as a tool to achieve it. This weak sustainability indicates the balance of holding economic activities with certain responsibilities towards the other pillars of sustainable development which are society, environment and culture (Caeiro, Filho, Jabbour & Azeiteiro, 2013).

*Strong sustainability:* refers the belief that all natural resource should be fully preserved (Pearce and Atkinson, 1995) in order to meet the needs of future generations and cannot be shifted for man-made capital (Davies, 2013, 115). For this model, the all pillars of sustainable development exist altogether and

determine the existence of each other (Caeiro, Filho, Jabbour & Azeiteiro, 2013). It is suggested to look for other equivalent alternatives to support economic growth (Ayres et al. 2001,159).

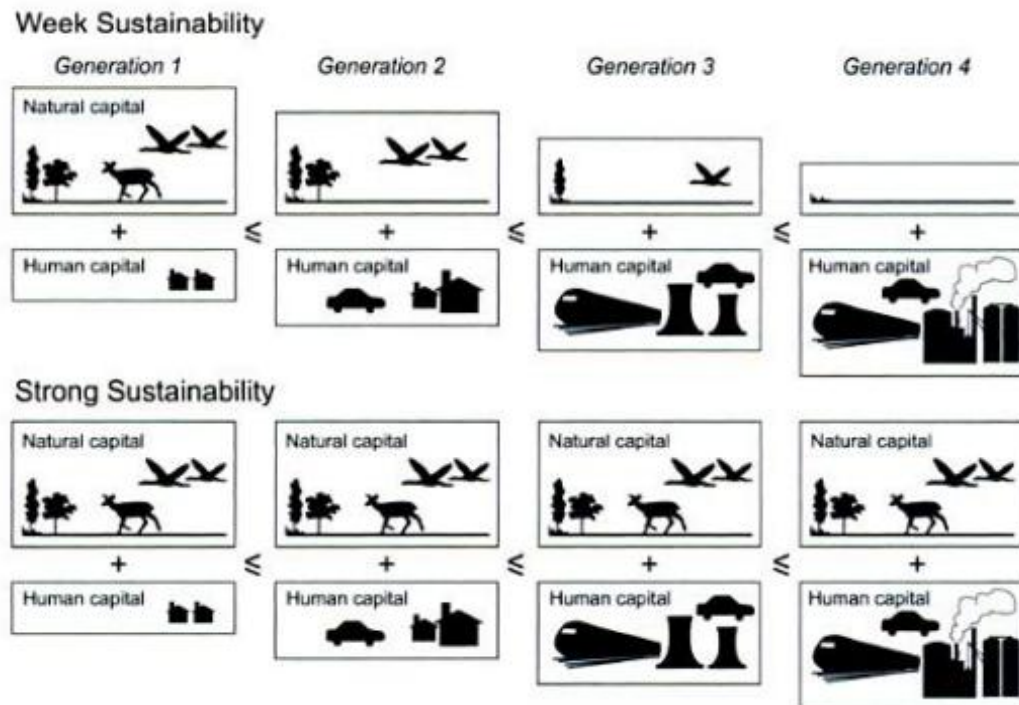


Figure 1:Weak and Strong Forms of Sustainability (Roberts, 2004; also see Barr, 2008)

The above graph indicates that carrying out weak sustainability can cause the natural capital to incline over time which also leads to unsustainable development (Barr, 2008). The model of weak sustainability heavily relies on technology and knowledge of humans to create sources that can make up for the lost natural capital (Neumayer, 2003). For this reason, the strong sustainability appears to be the ideal model for educational institutions to adopt based on its values and ethics. The result of the survey in the next section reveals the students' attitude towards which sustainability they are in favor of.

## 2.2 Education for sustainable development

The core concept of sustainable development appears rather complex and it may require a certain level of education to understand the subject. Hence, education on such topic especially as the higher education institutions is

believed to give an significant contribution in helping the students before entering the labor market develop knowledge and skills which allow them to adopt and practice a sustainable life style to achieve sustainability and improve the quality of life in the long run.

### **2.2.1 What is education for sustainable development**

Education for sustainable development was first outlined in chapter 36 "Promoting Education, Public Awareness, and Training" of Agenda 21 (UN, 1992) from Earth Summit in Rio de Janeiro at United Nations conference about environment and development in 1992. Rohweder (2008, 11) indicated that education has had great influences on changing attitudes, social values and bringing aspirations amongst people especially in the context of promoting sustainable development. Recognizing its importance, in 2002, the United Nations (UNESCO, 2012, 33) declared in the period between 2005 and 2014 as the Decade of Education for Sustainable Development. UNESCO was assigned by UN to be responsible for implementing education for sustainable development, and the organization emphasized integrating all the sustainable development aspects of environmental, economic and social development into the programs and they also should meet the local and cultural requirements. (UNESCO 2006, 15.)

Education for sustainable development toolkit published by UNESCO (2006,18) has defined:

"Education for sustainable development is more than a knowledge base related to environment, economy, and society. It also addresses learning skills, perspectives, and values that guide and motivate people to seek sustainable livelihoods, participate in a democratic society, and live in a sustainable manner."

Von der Heide & Lamberton (2011, 672) and Blewitt & Cullingford (2004, 29) agree that education for sustainable development should strive to inspire and encourage students to integrate sustainability issues in their decisions making. It should help to shape students' thinking to move forward to a more sustainable world through their actions through the programs offered at these education institutions. In addition, the toolkit (UNESCO, 2006, 18-24)

suggests to put the five elements of ESD of all dimensions of sustainable development when reorienting and setting up an ESD curriculum:

- Knowledge: Basic knowledge that covers enough to acquire and develop understanding of the whole idea and process of sustainable development.
- Issues: Students should be thoroughly informed of what issues and challenges of sustainability that the world is now facing.
- Perspectives: The ability to look into the issues regarding to sustainability globally and locally and from different viewpoints which helps to understand the causes and possible outcomes.
- Skills: Those that are practical and applicable within different aspects of sustainable development to benefit the community, future employers and improve quality of life.
- Values: Different approaches of ESD in providing values should be in coherence with the vast values of the community in which the school settle and ensure students to understand and implement sustainability not only springing from their own values, but also taking into account the society they live in and different parts of the world.

### **2.2.2 Integrating ESD into curriculums in Higher Education Institutions**

Hopkinson (2008) has identified a combination of formal, informal and campus curriculum for ESD and recommended to link them three well to enhance the success in integrating sustainability to curriculums in higher education institutions:

- Formal curriculum: refers to traditional teaching methods through different modules supported by materials providing students with cutting-edge knowledge about all aspects of sustainability. Interdisciplinary teaching is highly recommend for this case, because this approach allows to examine the topic through different insights before coming up with a coherent framework.
- Informal curriculum: These involve learning activities organized by students through different projects and voluntary programs not only

for good causes both to the community and the planet, but also for personal development.

- Campus curriculum: Sustainability can be implemented within the properties of the campuses by developing and offering eco-friendly learning environment.

### **2.2.3 ESD in higher education in Finland**

Higher education is offered in 14 universities and 24 universities of applied sciences in Finland. The Finnish Ministry of Education makes it very clear about making sustainable development as one of the core objectives of Finland's policy and lead the higher education in the country (Kaivola & Rohweder, 2007).

The Committee of the Ministry for Education for Sustainable Development (Kestävän kehityksen edistäminen koulutuksessa) was founded by Ministry of Education in 2002. The committee had their proposal on strategy for education for sustainable development and implementation plan for the period from 2006 to 2014 was approved and announced in 2006. The strategy is in fact to commit and respond to the UN Decade of Education for Sustainable Development and the Baltic 21 Programme, which is driven from Agenda 21 by UN. The Baltic 21 programme focuses on promoting and integrating all aspects of sustainable development into education systems of the Baltic Sea region. (Finnish Ministry of Education, 2006)

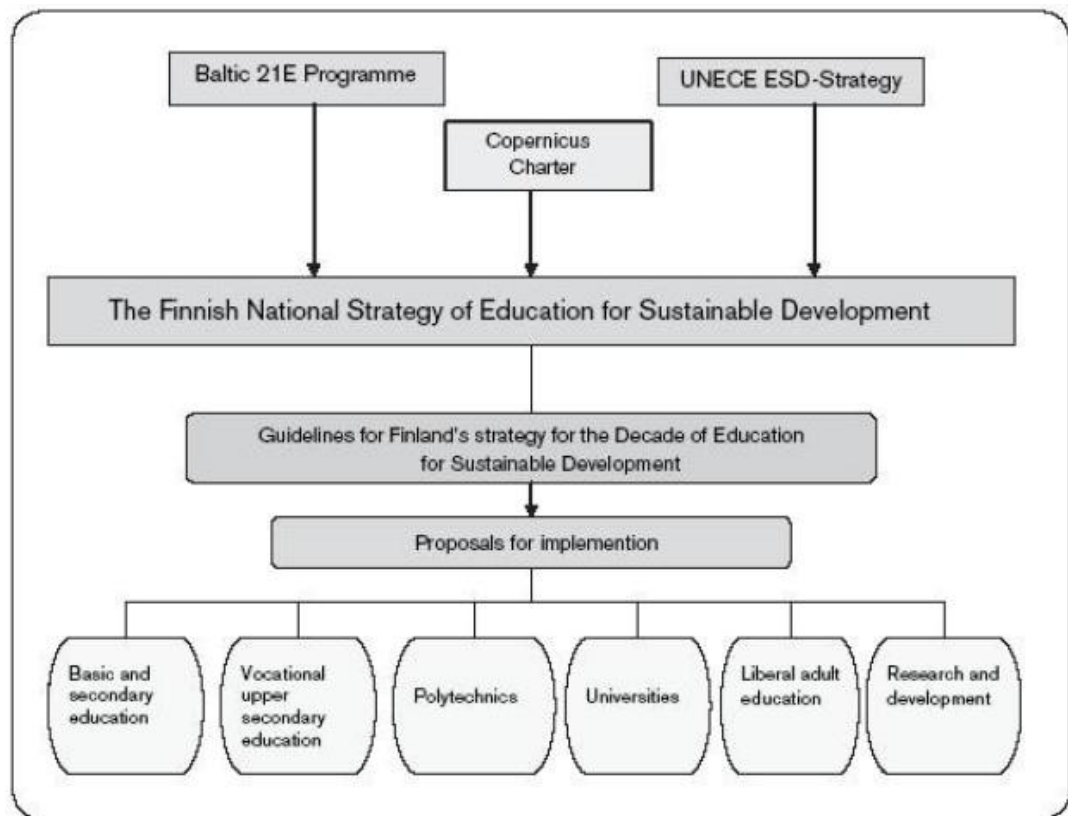


Figure 2: The diagram of the Finnish National Strategy of Education for Sustainable Development (Finnish Ministry of Education, 2006)

Rohweder (Finnish Ministry of Education, 2007) claims that the approach to sustainable development education in higher education by the Finnish Ministry of Education and most researchers appear to be based on the strong sustainability form, also known as value-based sustainability in education context.

As mentioned in the beginning, JAMK is a member of PRME, which is an international organization with the mission to promote responsible management education. Also it is shown on PRME's official website that there are other five university members from Finland, which are Aalto University, School of Business, HAAGA-HELIA University of Applied Sciences, Hanken School of Economics, Turku School of Economics and Lappeenranta University of Technology. This organization has introduced the six golden principles for the members, which are purposes, values, method, research, partnership and dialogue. These principles serve as a guideline and ensure the members of the organization including academic institutions to give students the cutting-edge education on sustainable development to create more



responsible future leaders taking significant care of all social, environmental and economic aspects in operations.

The Aalto University School of Business reveals in their report for PRME (2014) that the school appears to have quite strong ESD practice with strategic curriculum planning. Students are introduced to corporate responsibility during the first orientation week and later familiarize themselves with the topic with a compulsory course on corporate responsibility and business ethics in the first year and sustainability issues are constantly brought up across different business subjects to get the student in loop with what is going on in the industry. A wide selection of elective courses with the focus on sustainability give the students greater opportunities to explore topics interesting them. The teaching method is rather comprehensive, which allows the students to take the initiative by studying the issues and challenges of sustainability first. Later, their tasks are to come up with the action plan to solve the puzzles. On the other hand, as published in a progress report for PRME (2014), HAAGA-HELIA University of Applied Sciences offers a separate elective module of Corporate Social Responsibility with good selections of courses dealing with sustainability in the business context. These courses are offered in both Finnish and English, which offers equal opportunities for Finns and non-Finn students to improve their knowledge of the topics. The school adopts proactive teaching methods similar to Aalto University School of Business with assistance of stimulation games and other classrooms activities to attract attention of students in their studies.

According to JAMK's annual report on progress for PRME (2014), JAMK has been promoting and addressing the importance of sustainable development and global social responsibility by integrating sustainability issues across the curriculum. It is designed to give the students from overview to in-depth insight into the topics of sustainable development over the years of their studies at JAMK. How JAMK commits to providing education for sustainable development will be discussed further in the next section of data collection.

### 2.3 Behavior change

As mentioned in previous section, the ultimate goal of education for sustainable development is to equip the students with competencies of sustainability aspects for their daily life and future career. It is greatly designed to change the students' attitude and behaviors towards a more sustainable way of life. Sustainability can only be achieved upon those changes of behaviors (UNESCO, 1997, p. 34).



Figure 3: Interdisciplinary approach to sustainability education (Frisk & Larson, 2011)

Frisk & Larson (2011) suggests the interdisciplinary approach to education for sustainable development with the 3 crucial elements where the role of change in behavior is addressed. Lack of knowledge may prevent people from changing their behavior (Monroe, 2003) and people with different level of knowledge tend to carry with them different behaviors towards the same issue (Kaiser & Fuhrer, 2003). Behavior change highly depends on one's belief about the impact of their behaviors. If these changes of behaviors are proved to create any difference in positive way, it is likely to keep this process of behavior change established and continued (Brucks & Van Lange, 2007).

### 2.4 Summary

Sustainable development is a crucial concept for humankind where all the economic, social, environmental and cultural factors should fit all together on

the right balance to maintain a sustainable society. It is a society that gives the equal opportunities for every single person regardless their gender, origins and religions background, also the access to health care and especially education that they will need to boost their knowledge and skills to join the future workforce. It is also the society with a growing economy without damaging the environment. Education for sustainable development is served as a tool to understand how the society system works these days and also the interaction of the 4 mentioned dimensions of sustainable development. A both formal and informal curriculum with efficient learning method is highly appreciated in higher education institutions or at any levels. Once education is provided, it plays important role in shaping or changing one's behaviour. Only by then, sustainability is one step closer to achieve. Ever since the ESD was officially developed by UN since 1992, there is still a lack of studies on the effectiveness of ESD on the attitudes and behaviors of the students.

### **3 Research implementation**

As the research problem is about finding out how JAMK implement the ESD effectively across the curriculum to foster or enhance the positive influences on students. The author has drawn out the main crucial research question of "To what extent the education of sustainable development at JAMK School of Business influence on students?" in order to help tackle the research problem. The objectives accordingly have been defined to deal with the research question, which are:

- To measure how students with different backgrounds and experiences, perceive education for sustainable development from JAMK. And how has it shaped their thinking and changed their attitude towards sustainability issues in terms on their decision making from personal daily life, work and future planning.
- To study level commitment of JAMK School of Business in delivering education of sustainable development across both formal and informal curricula.

### **3.1 Research design**

The research involves primary and secondary data method. Primary data are data that the researcher put efforts to collect to answer to the research question through qualitative and or quantitative research (Creswell, 2009). In addition to the primary data, secondary data sources is taken into account despite the fact that it is rather limited to give the author some sort of knowledge and insights of the related topic. This secondary data is a less time and cost consuming method is secondary data collection which are published data collected by other researchers for other primary purposes (Hinds et al., 1997).

The mixed methods of both quantitative and qualitative is employed for the desired outcomes of the study. The data is accordingly categorized into 2 classification of quantitative and qualitative. Kananen (2011) indicated that quantitative research is an approach that helps to explain the particular phenomena through analysing information in the form of numbers through the traditional survey, while qualitative research provides deeper understanding and specification of the phenomenon through observations and small scale samples which tends to be in form of an interview.

Due to the fact that there has been no prior research to study about how ESD at JAMK have influence on students' behavior and attitude towards sustainability issues, an exploratory research is used to gain the insights and create the hypotheses of the studied problem (Burns & Grove, 2001). The author consider applying mixed methods with triangulation approach as the most efficient way to approach the research problem as it allows the author to gain better understanding of the research problem. The other advantage of employing the mixed method is to help to reduce the weakness and limitations of each while combining their strengths to have a more neutral results (Sechrest & Sidana, 1995). The triangulation approach allows the author to interpret the phenomenon by merging all the data results for the cross verification through the mixed method and enhance the reliability and validity of the research (Creswell, Plano Clark, et al., 2003).

### **3.2 Research method**

Interviews and surveys are carried out for primary data collection. As mentioned from the beginning, the purpose of the research contains 2 mains

parts. The first objective is to measure how the students with different backgrounds and experiences perceive education for sustainable development from JAMK and how it has shaped their thinking and changed their attitude towards sustainability issues in terms on their decision making from personal daily life, work and future planning. The author is aware that conducting a case study by following a studied focused group before and after specific courses with focused on sustainability within a good length period from about a year might bring better results to spot on any differences. However, the time frame did not allow and the author has chosen to conduct the survey among students with different majors and nationalities across JAMK School of Business. Nunan (1999) as well points out this advantage of conducting the questionnaires can be less time consuming while reaching to many people.

As being said, there has been no prior research to study about how ESD at JAMK have influence on students' behavior and attitude towards sustainability issues. The author is aware that answers from the survey is not sufficient enough to tackle the phenomenon as sometimes the answers could be imprecise (Gillham, 2000), therefore informal structured interviews were carried out. The advantage of an interview is to help to the researcher to maximize the opportunity to learn more about the experience and perspectives of the participants (McNamara,2009) and explore the phenomena (Johnson & Turner, 2003).

The author aims at analyzing and generalizing the survey results and collecting detailed perspectives from the representative group to have a closer view of the whole picture. It is also designed to support data collection which aims to gain deeper understanding from student's perspectives. Both quantitative and qualitative data were collected through this mixed method through this triangulation approach.

The second objective is about learning the level of commitment of JAMK School of Business in delivering education of sustainable development across both formal and informal curricula. In order to gain the understanding about the process, an semi-structured interview with the representative who is responsible for education management at JAMK is planned to implement. Secondary data involved studying level commitment of JAMK School of Business in delivering education of sustainable development across both

formal and informal curricula through recent report for PRME.

## **4 Results**

This chapter presents the research implementation and the results collected from both the survey and interview to study the students' knowledge and attitudes towards sustainable development and the level of commitment of JAMK School of Business in delivering education for sustainable development to students.

### **4.1 Data collection**

Initially, the author aimed to reach as many respondents as possible within a three-week period by choosing a quantitative method. Unfortunately, the plan did not work out due to the students' unwillingness to answer survey especially through email. The survey was sent out to 108 students, yet almost 50 per cent of them answered the survey. The author then narrowed the expected number of respondent down to 50 which is rather acceptable for the study. 19 of them are Finnish students and the rest 31 students come from China, Vietnam, Nepal, Kenya, Nigeria, USA, Pakistan and Russia. The author has categorized the focused group into two, which are second year students and final year students. There are 25 students in each group. The data was accordingly collected and categorized into the two perspectives. By choosing these two groups, it is expected to see how the attitudes might change throughout their study years at JAMK's School of Business since it is their strategy to give the students from overview to in-depth insight into the topics of sustainable development during their studies.

The questionnaires were delivered to the students both through email, facebook and around the Rajakatu campus outside the classrooms. Both closed and open questions were used in the survey. The questions were in the form of a Likert scale 1-5, in which 1 is strongly disagree and 5 is strongly agree, multiple choices for close questions and asking for definition and opinions in the open questions. Excel served as the main tool for the data analysis including the correlation coefficient calculation to confirm the correlation of some aspects, which will be shown in the results section.

The questions of the survey were designed to tackle the first objective of the research in studying students' experiences and attitudes of ESD at JAMK. The designed questions aim at maximizing the efficiency and liability of the results within the four main focused areas to study, which are:

- Students' knowledge prior and after JAMK
- Students' evaluation of the courses and interest in the subjects
- Level of commitment of students to adopt a sustainable lifestyle
- Attitudes towards future career planning

As being presented in the research method, apart from the survey conducted among the students, an in-depth interview with five random students was also conducted. It was also designed to support the data collection, which aims to gain a deeper understanding from student's perspectives.

The author's attempt to interview Ms. Sinikka Pesonen, in order to gain a certain level of understanding of how education for sustainable development is implemented at JAMK, failed. The reason is that JAMK does not, systematically, collect the information that the author desire. For this reason, the author used only secondary data involved studying level commitment of JAMK School of Business in delivering education of sustainable development across both formal and informal curricula through recent report for PRME since 2011 till 2014 provided by Ms. Sinikka Pesonen who is responsible for education management at JAMK through email exchange.

## **4.2 Research results**

After the data was collected, the results were categorized accordingly to the main focuses of the designed survey and interview as mentioned in the data collection:

### **Students' knowledge about sustainable development prior and after JAMK**

The result reveals that 74% of the Finnish students asked had exposure to the education for sustainable development before starting their study at JAMK while only 42% of the non-Finnish students had any courses with content of

sustainable development in their previous studies before JAMK. In the next question, the students were asked to define sustainable development briefly, and the result is shown in the table.

Table 1: Students' attempt to define "sustainable development"

	Second year students (25)	Final year students (25)
<b>Not able to give definition</b>	10	3
<b>Can only give out keywords</b>	5	6
<b>Poor understanding</b>	4	2
<b>Decent understanding</b>	5	7
<b>Good understanding</b>	1	7

Out of 50 students surveyed, there were only 26 students that were able to state their opinions about the definition of sustainability and 11 of them managed to give out the main key words. As mentioned in the literature review, there is no clear cut definition for sustainable development as different persons have different concepts about sustainable development. The vagueness of the term among the students had been expected by the author. The interesting fact is that more than 70% of both the second year and final year students have a tendency to consider environmental issues as the main point in sustainable development.

That tendency can also be confirmed by the lists of important challenges that students think the world is facing which as shown in figure 4.



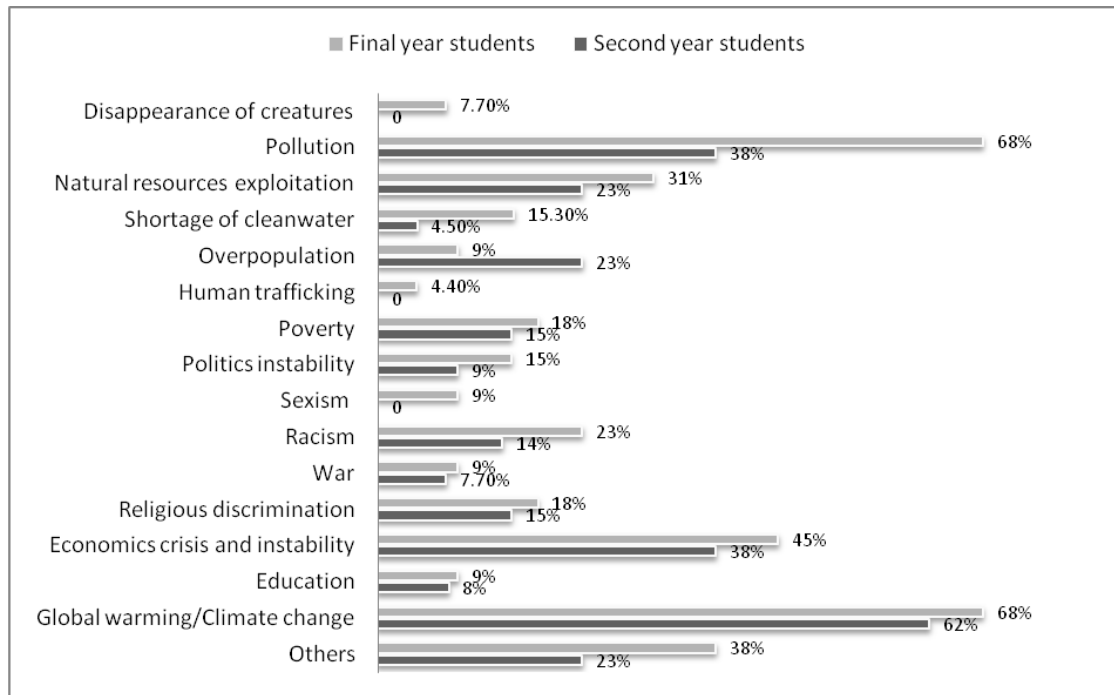


Figure 4: Top important challenges that students think the world is facing

Regardless of the students' different backgrounds, global warming and environmental issues are most often mentioned by the students. The students also show a great concern for economic issues, exploitation of natural resource, poverty, racism, terrorism, war, education and so forth. Most of them seem to be able to address the current issues and challenges of sustainability that the world is facing. This is rather a positive sign as awareness is always a good initial step before taking on responsible actions both for their life and the planet.

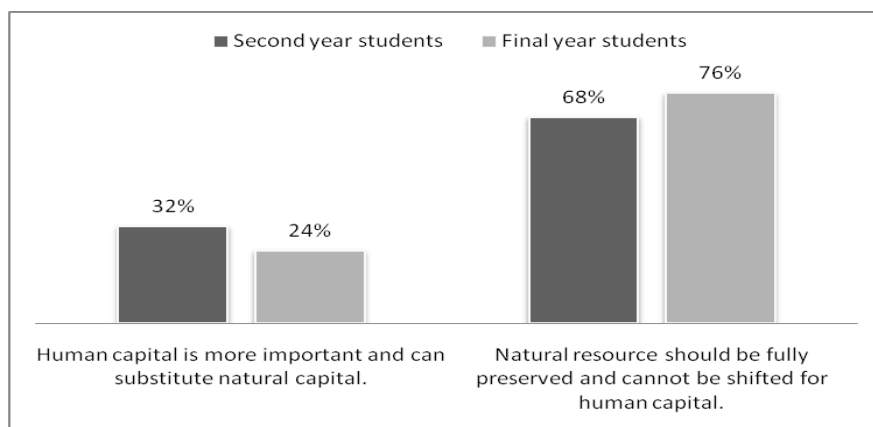


Figure 5: Student's attitude towards strong sustainability and weak sustainability

In Figure 5, the students were asked to choose one of the two above statements that they agree with. The result shows that there is no significant difference of choice within the two groups. More than half the studied groups support a strong sustainability model also known as value-based sustainability in which natural resources should be fully preserved and cannot be shifted for human capital.

### **Students' evaluation ESD at JAMK and attitudes towards the subjects:**

This part the survey is designed to collect students' evaluation on ESD at JAMK and the subject. It is also to study their attitude in adopting sustainable lifestyle through daily activities. Likert scale from 1 to 5 is deployed for question 5 to 11.

Table 2: Average rating scores of students across different aspects from question 5 to 11

	Average scoring rate (1-5)	
	Second year students (25)	Final year students (25)
<b>Q5: Students' evaluation on their knowledge improvement of sustainable development.</b>	2.9	3.1
<b>Q6: Students' satisfaction towards the courses with the content of sustainability</b>	3	3.2
<b>Q7: Students' scale on the importance of teaching sustainable development in higher education institution</b>	3.7	4.6
<b>Q8: Students' interest in taking course related to sustainability</b>	2.8	3.4

<b>Q9: Opinion on whether sustainability-focused courses are useful for your daily life and future careers</b>	3.4	4.0
<b>Q10: Opinion on whether sustainability-focused courses should become compulsory</b>	3.4	3.7
<b>Q11: Students' opinion on how ESD courses offered at JAMK improve their sustainable manners towards community and environment</b>	3.4	3.5

The average rating scores given by students are generally good. This comes to prove that JAMK School of Business has been efficient in delivering education for sustainable development to students. While most of the students show their satisfactions at some level towards courses with focus in sustainability. However these students believe there are rooms for improvements that should be brought into these courses through the interview:

*Student 1: Study trips to organizations who have good practices of sustainable development and add more visual aspects of the consequences of with/without sustainability practices*

*Student 2: The contents should be more practical that highly relate to student's own field of study rather than just general facts and information that people can easily read from the news.*

*Student 3: Implementing more creative way of teaching, updating courses with news and latest practices, cooperating with related organizations.*

*Student 4: More case studies should be brought into the courses to provoke students' thinking into the issues and working towards possible solutions.*

*Student 5: We tend to learn more by practicing it. Simulation game for sustainable development like what we do in marketing class may be appreciated.*

Though there is a slight difference in the scores given by second year and final year students across the above topics. The table displays a majority of the final year students have improved better knowledge and attitudes towards sustainable development. The fact that more final year students have tendency to take more courses and be more exposed to sustainability may explain for this score difference.

The above result could also be confirmed in the below table when discussing about the difference gap in knowledge and attitude between second year and final year students.

Table 3: The numbers of average students answer on question 5 to question 11

	1	2	3	4	5
<b>Second year students</b>	0.57	3.86	12.14	7.43	1.29
<b>Final year students</b>	0.14	2.14	7.71	9.71	5.29

Almost half of the second year students asked have quite neutral attitude towards the topic by giving the score of 3 out of 5. On the other hands, the evaluation of final year students lies mostly between 3 to 5.

It is suggested that formal, informal and campus curriculum for ESD should be combined well together to enhance the success in integrating sustainability to curriculums in higher education institutions. However, the survey result reveals the fact that 60 % of second year students and 68% of final year students express their rather low awareness of any activities outside classrooms, as in projects and voluntary programs held by JAMK and students to educate about sustainable deveopment or do good causes to both the community and the planet.

The interviewed students were asked to give JAMK suggestions to promote sustainability awareness among students both outside and inside the classroom and they are described as followed:

**Student 1:** *Within the campus, there might be more signs and instructions for saving energy, for example take only one napkin for lunch, or save papers before print and so on. Show the actions done and how they are beneficial, for example some time ago there was a sign at the student cafeteria that had the amount of food thrown way, which I believe decreased the amount of food thrown away because people were more aware of it. Perhaps some fact sheets about general consumption and how much JAMK consumes, or how much paper was recycled etc*

**Student 2:** *Run competitions, campaigns or projects about sustainability that could involve both teachers and students to play their roles. Design classroom sustainably with any supporting banners of being sustainable. At least, the recycling trash bins should be seen more often. There is a need to add more visual aspects of consequences of unsustainable practices around the campus i.e classrooms, cafeteria, library, bathrooms etc.*

**Student 3:** *JAMK should arrange sustainability-focused course as compulsory subject. We were only taught about it as a small part of our course and did not have a chance to take course with full main focus in sustainability in JAMK because it's always overlapped by other compulsory courses and the sustainability course just open once per year. I took the sustainability courses in my exchange study abroad and I am really interested in this issues. I am trying to be more sustainable now. Encourage and supervise students in practicing sustainability in the social life.*

**Student 4:** *You cannot force people to be sustainable, but you can wider their perspective of what it is to be sustainable without turning into a some sort of a hippie. Making small changes is a big step already, and JAMK should try to widen up the students' view point of how small of a thing it is to be sustainable in the end.*

**Student 5:** *Play video to remind people about current stage and importance of sustainability. The video should be impressive and*

*interesting. I suggest something like a video named "5 degree". It is about how the earth will be when the temperature increases 5 C degree.*

Table 4: Correlation coefficient between students' interest and attitudes

	Opinion on if ESD is useful for students' daily life and future careers		Whether the students have developed sustainable manners towards community and environment	
	Second year students	Final years students	Second year students	Final years students
<b>Students' interest in taking courses with focus in sustainability</b>	0.79	0.64	0.80	0.97

This correlation coefficient suggests that the three mentioned aspects have quite moderate to strong positive correlation ( $>0.50$ ) for both second year and final students. It is of note that 64% of second year students asked show rather moderate to high level of interest in taking the courses while it is 100% for final year students. The result reveals that students' interest in taking courses with focus in sustainability is highly related to their opinions on whether these courses are practical for daily life and future career and whether the students have developed sustainable manners towards community and environment. This could be sufficient to prove that the key factor to maximize the positive influence on students is to enhance the interest level of students to the topic.

### **Attitude towards adopting sustainable lifestyle and future career planning:**

The complex society nowadays tend to turn people into money-driven especially in capitalism countries. That gives the author an urge to find out whether salary would determine the students in their career planning and the result is rather positive from the author's perspective as shown in Figure 6:

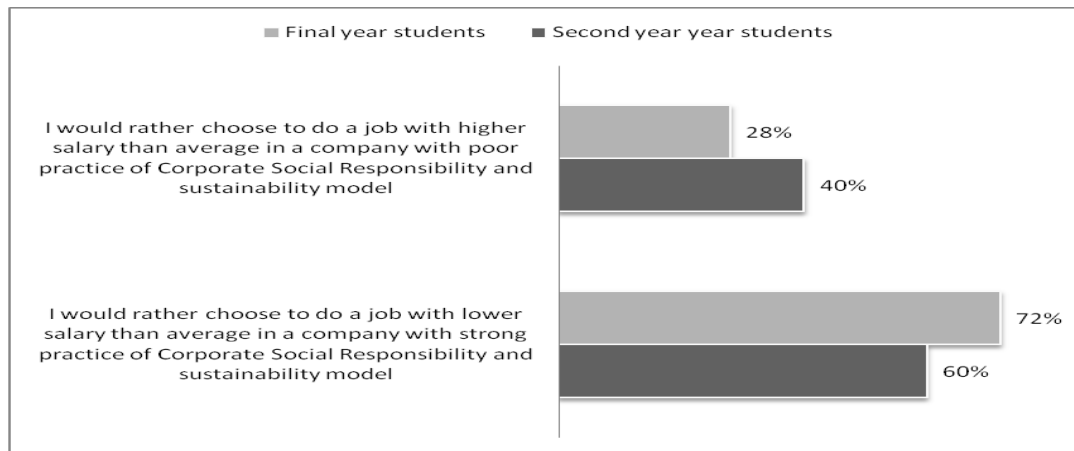


Figure 6: Students' attitude toward choosing a company

The chart shows rather high percentage of both second year and final year students in showing their willingness to choose a job at a company with a strong practices of Corporate Social Responsibility and sustainability model regardless lower salary. Companies with great values of sustainability are highly appreciated with many students nowadays. The other factors could be seen in Figure 7 shown below.

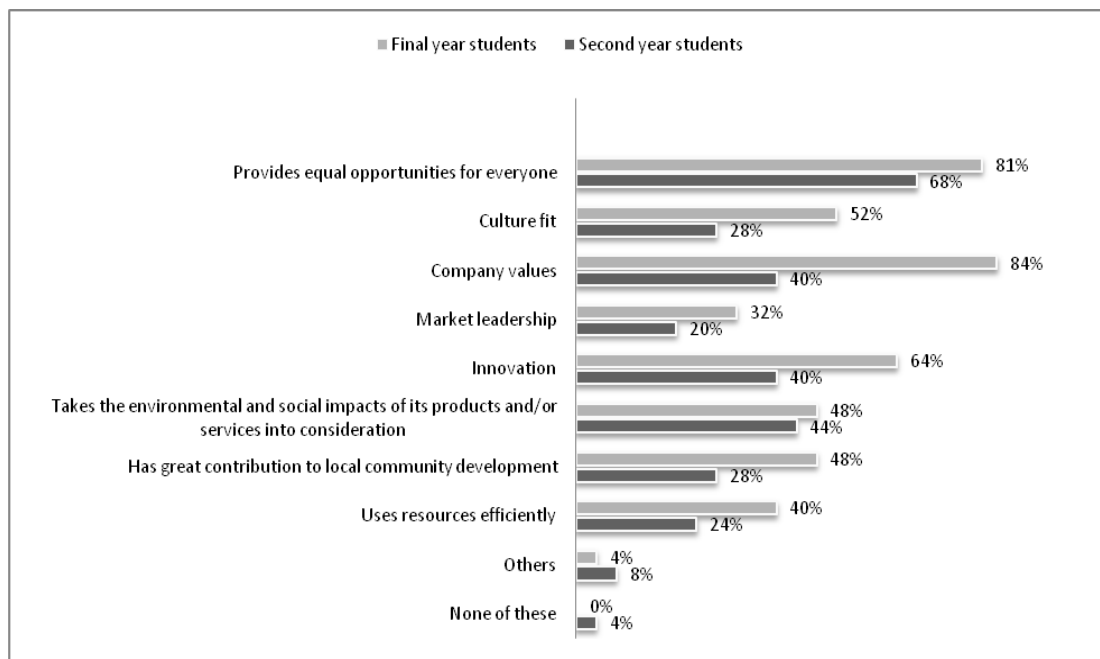


Figure 7: Factors that students consider from the employer when applying for a job

Second year students and final year students have a slight difference in opinions on factors that determine them in applying a job. While the final years students' choices focus on the factors of company values and equal opportunities for everyone, the second year students' choices spread well on all factors.

Sustainable development topic is rather vast and extended in different areas. Each interviewed student has at least one critical thing about sustainability on their own mind that might drive them with decision making in their daily life and future career.

**Student 1:** *Developing in a way that reduces waste and promotes long term health of people and the environment.*

**Student 2:** *Maintain the balance between economy and ecosystems. It is good to make money, but destroying the environment because of that is not worth it. After all, we are the people who suffer from those impacts that we leave on the environment.*

**Student 3:** *Protect the environment and use as least amount of natural resources as possible. They do have a certain limit for our greedy usage and humans will have to pay the good price for exploiting it and suffer well when we run out of all of them.*

**Student 4:** *Take on full responsibility in every actions you make. This is because every little things we have done, these might have some positive or negative impacts on someone or something. You should start breaking bad habit and practicing good ones.*

**Student 5:** *Using resources responsibly while practicing business. There might be perhaps a lot for one to use now, but for sure that does not last forever. I don't dare to imagine what happens next when there is none left due to our greed.*



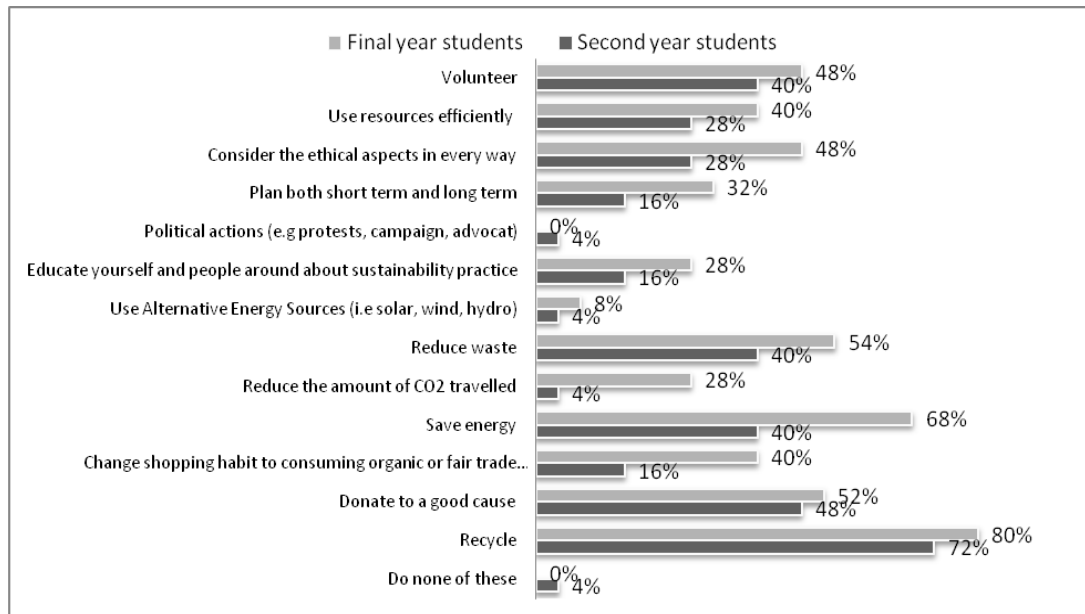


Figure 8: List of actions students have carried out in their daily life activities

Students have adopted sustainable lifestyle proven from choices of sustainable daily life activities through little simple eco-friendly things such as recycling, saving energy and reducing wastes.

### **Level of commitment of the JAMK School of Business in delivering education for sustainable development to students:**

As mentioned in the chapter on data collection, the content of this section was largely collected from the report on the progress for PRME 2014 provided by Sinikka Pesonen who is responsible for education management at JAMK.

The United Nations Global Compact serves as a management model at JAMK in integrating formal, informal and campus curriculum in order to deliver effective education for sustainable development. The most recent achievement was the recognition of WWF Green Office label to the Dynamo campus.

The School of Business of JAMK has been promoting and addressing the importance of sustainable development and global social responsibility across different groups not only among students but also among educators, business corporations and in the local community etc.

#### *Among students:*

- **Formal curriculum:** It is designed to give the students from overview to in-depth insight into the topics of sustainable development during their studies at JAMK. These courses are offered at both Bachelor's and

Master's levels covering different issues such as corporate responsibility, ethics and sustainable development. They are both taught in separate sustainability-focused courses such as sustainable development in business, developing social responsibility, sustainable facility management, sustainable tourism, eco-gastronomy, ethical and environmental aspects in consumer services and also as part of some certain courses such as high tech management.

- **Informal curriculum:** Both students and teachers at JAMK have the opportunity to participate in the Erasmus intensive programme on topics of sustainable development with other participants coming from a few more countries in Europe. The most recent one organized in Jyväskylä in 2014 dealt with Ecopreneurship Approach in the Context of European Environment.

*Active interactions with others:*

- **Community:** The recent project JAMK School of Business has had with the community is the Innovative Village Transnational Leader Cooperation project with the corporation with other partners and rural communities. The goal is to establish local services by collecting ideas and opinions of those living in the selected villages.
- **Business corporations:** The Regenerative Leadership project focusing on corporate social responsibility with the University of Jyväskylä and 12 companies was considered effective by introducing the models and tools for developing employees and wellbeing and better leadership.

In the future, JAMK School of Business strives to promote all the aspects of sustainable development through cooperation with the school's service provider and develop a more efficient and comprehensive strategy by integrating the values of social responsibility and sustainable development across the curricula. As being part of the process of international integration, JAMK School of Business is fully aware of the importance of cultural issues and has been working on the project dealing with ethics and responsibility in multicultural higher education contexts through lively activities including games and videos for students and teachers. Awarding the WWF Green Office label to the Dynamo campus is considered a great milestone, which urges the

school to spread the green office concept to the rest of the buildings of the JAMK campus.

## **5 Conclusion**

Any education system should find their ways to provide students with sustainability competencies by updating teaching methods and materials according to the current society (Sterling, 2001). Positive attitudes towards sustainability can only be established when one has gained a certain level of knowledge about the subject and turn it to their beliefs to actually participate in the involved activities. In addition, it is highly important for any educator to recognize that students carefully choose the information delivered to them if it reflects their values and beliefs (Kollmuss & Agyeman, 2002).

### **5.1 Discussion**

As the first purpose of the research was to measure how students with different education levels and experiences perceive education for sustainable development provided by JAMK School of Business and their attitudes towards sustainability and how it has shaped their thinking and changed their attitudes towards sustainability issues in terms of their decision making for personal daily life, work and future planning. The results show that students have a certain level of awareness and perception of sustainability. They also show that the majority of the students have an environmentally focused view of sustainability. Despite the fact that there is a vagueness of sustainable development concept among students, most of them are able to address the current issues and challenges of sustainability that the world is facing. That gives them an ability to act from different perspectives with more sustainable manners. Practical skills and values within different aspects of sustainable development that students obtain through the education provided by JAMK absolutely benefit the community, future employers and also improve quality of life.

Students' interest in taking courses with the focus on sustainability is rather average for the second year students and moderate for the final year students. However, both groups believe these courses may come useful and serve as a tool to promote their future career. Students are more aware of the current job market demand of sustainability competencies. The fact that sustainability has

been considered an integral part of development by most corporations especially the giant multinational organizations, students with higher sustainability competencies will boost their chance in landing a job in such company. These market-driven initiatives may foster a positive change in the attitudes of students toward a more sustainable way of life and thinking.

The other objective set by the author was to study the level of commitment of JAMK School of Business in delivering education of sustainable development across both formal and informal curricula. Though JAMK School of Business shows good commitment and efforts in delivering education in sustainable development to students through different channels, the process is not well planned out to help with performance measurement. It also appears that sustainable development is not addressed equally across different majors. It is an important task for JAMK to understand students' perspective to implement education in sustainable development effectively across the curriculum to foster particular positive influence on students.

## **5.2 Recommendation**

The surveys and interviews with students have shown that JAMK School of Business has been efficient in delivering education for sustainable development to students which bring quite positive attitudes of students towards a more sustainable society. However there is always room for improvement.

- *Changes in infrastructure, cultures and learning environment:*  
Education for sustainable development does not simply about formal courses offered to students, but it also includes the culture on the campus and the whole buildings infrastructure and facilities where students are most likely drawn attention to. This may bring greater positive attitude and behavior change. reducing car parking spaces to encourage public transportation usages and providing more visible recycled bins to reduce the waste.
- *A clear both formal and informal curriculum development process and management:*

It should aim at a clear map process of curriculum model for ESD with objectives, areas of learning and learning measurements. The measurement tool can be in a form of the popular scoring rubric which could be necessary to keep track of the school's performance and future improvements.

- *Comprehensive ESD curriculum models:*

An introductory education on sustainable development to new students on their orientation days is considered necessary. The fact that there is a great numbers of students do not have prior knowledge about sustainable development before going to JAMK as it has been revealed in the result; therefore, JAMK School of Business can take on this crucial task in encouraging their interest in the topic from their new starting days. It would be appreciated to make the ESD courses compulsory as many students wished during the survey.

- *Be more efficient in communication channels for informal curricular activities:*

Students' interest can be intrigued and educated about the subject not only through formal but also informal curricular activities. The school should ensure that students are well aware of running activities or campaigns related to the topic as more than half surveyed students claimed that they are very well informed about any activities going on. It could be the students are ignorant about what is going around the campus, or perhaps the communication channels from school are not effective enough to draw the attention from the students.

Once interest from students are established, student's awareness of issues is enhanced and that would be a great starting point to develop positive attitudes towards the sustainability issues. JAMK School of Business is served as a change agent to motivate behavioral change through their strategic educational approaches to different degree programs and curriculum.

### **5.3 Research reliability, validity and generalizability**

There could be threats affecting the reliability and validity of the research that the author is aware of. It greatly involves in the whole process of the research which tends to occur at the stages of research method, data collection and data analysis (Onwuegbuzie and Johnson, 2006).

Kananen (2011) defines the reliability as the repeatability and consistency of the test results by conducting the similar measurements and methods.

Validity of the research is referred by Burns (1999,160) as the trustworthiness and applicability level of the research and ensures the research produce the results that it is supposed to investigate or measure.

It is suggested the recruitment of mixed method with triangulation approach enhances the validity and reliability of the research (Morse, 1991). The author has employed that approach with closed and opened end questions together with interview and has gained great understanding of students' attitudes towards ESD delivered by JAMK and sustainability issues in general. However due to the limit time of the author in Jyväskylä, Finland and the low rate of responds through email, the rate of correspondents to the surveys collected around the campus cannot push up the rate as expected. The results can only reflects a small part of JAMK's School of Business enrolled students.

The author failed to fully investigate the level commitment of JAMK School of Business in delivering education of sustainable development across both formal and informal curricula, which is one of the two main objectives of the research. A desired interview with the responsible person for education management at JAMK could not carried out because JAMK does not collect the information that the author desire systematically. By only studying the situation through JAMK's annual report on progress for PRME since 2011, it does not reflects the whole picture of how JAMK's School of Business is implementing to deliver ESD to students. This disadvantage can prevent the author from analyzing the process for education for sustainable development delivery from JAMK School of Business and evaluating the impacts of it on students.

Finally, research generalizability refers to the ability to transfer the results and extend to wider population (Babbie, 1995). As being said, the research was conducted on rather small scale of students on the whole JAMK with a focus

on JAMK School of Business only. The fact that there was not prior research about this topic at JAMK, the author has set the first bricks for future further potential research. It is highly recommended to conduct the research after JAMK has established the clear map process of curriculum model for ESD with objectives, areas of learning and learning measurements.

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## Appendices

### Appendix 1: Interview questions with students

1. Can you comment on the content of sustainability within your study curriculum?
2. Do you think any improvements need to be brought in these courses?
3. How would you suggest JAMK to promote sustainability within the campus?
4. If you could teach everyone one critical thing about sustainability, what would it be?

### Appendix 2: Email with Ms. Pesonen Sinikka

Dear Ms. Pesonen,

My name is Tram and I am currently last year student majoring in Facility Management. I am now doing my thesis to study about how Education for Sustainable Development (ESD) at JAMK School of Business is implemented across the curriculum. As from the students perspectives, I am conducting a survey to measure how the students with different backgrounds and experiences (e.g different nationalities, majors, years of study) perceive ESD from JAMK and how it has shaped their thinking and changed their attitude towards sustainability issues in terms on their decision making from personal daily life, work and future planning.

Unfortunately I am not in Jyväskylä at the moment, so I am not able to schedule any face to face interview. I have few questions for you and I would very appreciate it if you can spend some time answering these questions:

- 1/ Can you please describe the curriculum model for ESD from JAMK (i.e mapping out the whole program with aim/objective, areas of learning, assessment for learning)? How do you feel about it?
- 2/ How is ESD at JAMK stimulated/decided? Has it there been many changes compared to the past? Discuss possible future direction?

2/ Can you discuss any of the school policies that reflect environmental, social, economics and cultural sustainability?

3/ Any available special events and extra-curricular (informal) activities to enhance classroom learning about sustainability education.

4/ How are the feedbacks of students after the ESD course at JAMK?

5/ Can you please provide me the ESD Courses module lists?

Please do not hesitate to ask me if there is anything that appears to be unclear to you. Again, thank you for your time.

Best regards, Tram Mai.

### **Appendix 3:** Survey questions

Information of students:

- Degree program of study
- Nationalities
- Gender
- Which year of study

1. Have you ever taken any course about sustainable development before JAMK?

Yes/No

2. Can you please briefly give out the definition of sustainable development or at least some key words you consider them important?

3. Which of these statements do you agree with:

Human capital is more important and can substitute natural capital.

Natural resource should be fully preserved and cannot be shifted for human capital

4. Name the most 3 important challenges that you think the world is facing?
5. To which extent do you think your knowledge in sustainability has been improved? From scale 1-5
  - 1: I've become confused
  - 2: No improvement
  - 3: Improved a little
  - 4: Fairly improved
  - 5: Significantly improved
6. How satisfied are you with the content of sustainability (e.g social/environmental issues) taught in your courses?
  - 1: Not at all
  - 2: Slightly
  - 3: Moderately
  - 4: Very
  - 5: Completely

7. How do you think the importance of teaching sustainable development in higher education institution:

- 1: Not important
- 2: Slightly important
- 3: Fairly important
- 4: Important
- 5: Very important

8. Are you personally interested in taking course related to sustainability?

- 1: Not interested
- 2: Slightly interested
- 3: Fairly interested
- 4: Interested
- 5: Strongly interested

9. Do you think ESD is useful for your daily life and future careers?

- 1: Strongly disagree
- 2: Disagree
- 3: Undecided
- 4: Agree
- 5: Strongly Agree



10. Do you think these sustainability-focused courses should become compulsory?

- 1: Strongly Disagree
- 2: Disagree
- 3: Undecided
- 4: Agree
- 5: Strongly Agree

11. Have the ESD courses offered at JAMK influenced you in improving your sustainable manners towards community and environment?

- 5: Much better
- 4: Somewhat better
- 3: Stayed the same
- 2: Somewhat worse
- 1: Much worse

12. Are you aware of any activities outside classrooms, an in projects and voluntary programs held by JAMK and students to educate about sustainable deveopment or do good causes to both the community and the planet. If yes, have you attended any of them and what are they?

13. Which of the following actions have you carried out?

- volunteer
- recycle

- donate to a good cause
- change shopping habit to consuming organic or fair trade products
- save energy
- reduce the amount of CO<sub>2</sub> travelled
- reduce waste
- use Alternative Energy Sources (i.e solar, wind, hydro)
- educate yourself and people around about sustainability practice
- political actions (e.g protests, campaign, advocat)
- Plan both short term and long term
- Consider the ethical aspects in every way
- Use resources efficiently
- Question of origins of purchased products
- Do none of these

14. Which of the following statements would you agree:

- I would rather choose to do a job with lower salary than average in a company with strong practice of Corporate Social Responsibility and sustainability model
- I would rather choose to do a job with higher salary than average in a company with poor practice of Corporate Social Responsibility and sustainability model

15. Which of the following factors will you consider from the employer when applying for a job? Please select the three most important for you:

- Provides equal opportunities for everyone
- Has diverse workforce
- Uses resources efficiently
- Has great contribution to local community development
- Takes the environmental and social impacts of its products and/or services into consideration
- Actively reduces carbon emissions
- Innovation
- Market leadership
- Company values
- Culture fit
- None of these
- Others