

## HOW CAN HIGHER EDUCATION COMMUNITY CONTRIBUTE TO ACHIEVEMENT OF SUSTAINABLE DEVELOPMENT?

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### **ABSTRACT**

*These days, sustainability confronts us as a serious threat - or, more correctly, its absence is the threat. At the same time, and as a total complete contrast, it also offers most significant opportunities. Our current methods of production and consumption are simply not sustainable in the long term and so, for the purpose of saving the environment, both consumer and producer behaviour needs to be changed. Consumer behaviour is affected by values and attitudes, under the blanket name of 'lifestyle'. Lifestyle is not only influenced by choice, but connected to socio-economic factors, and to economic resources. Likewise the level of commitment affects the behaviour of the consumer. Education provides some degree of support in changing people's behaviour and behavioural culture. Sustainability Education is now starting to play an increasingly active role in education. This paper examines the current situation, the trends in educational activity and different solutions within the frame of our international comparison. University activities in environmental education are very useful as a source of raising environmental awareness and helping consumers to make "greener" choices in their lives. Education, in fact, has considerable social value in reducing harmful environmental impacts. Effective education can produce a change in society's attitudes, values and actions, and the focus on education for sustainability is a key element in the creation of sustainability-focused attitudes and values. What is more, universities should be a major contributor to society's efforts to achieve sustainability.*

Keywords: Sustainability Education, sustainability-focused attitudes, sustainability knowledge

### **SUSTAINABILITY VS HUMAN BEHAVIOUR**

The Millennium Ecosystem Assessment (MEA) warns that the Earth and its population are in a time of severe crisis characterised by pollution, climate change, invasive species, over-exploitation, habitat change and the loss of ecosystem services. If we want to save the environment, we must to change our behaviour. We must consume less (but what to do about poorer countries?), reduce our ecological footprint and make decisions that result in the protection of biodiversity, the ecosystem and our future well-being (MEA, 2005).

Our behaviour is affected by values and attitudes, and 'lifestyle' has become a synonym for the concept of behaviour patterns (Spaargaren and van Vliet, 2000), referring to the degree of coherence. Lifestyle is connected to consumption-choice and the decision-making process, as also to the social or symbolic dimension of consumption (Spaargaren and van Vliet, 2000). For instance, green consumers are concerned with both the quality of the environment and with that of well-being of life.

Lifestyle is not only influenced by choice, but connected with socio-economic factors and economic resources. The level of commitment also affects consumer behaviour. The behaviour of the individual consumer (with low environmental concern) is likely to deliver personal benefits and costs, without future-orientated outcomes. They prefer free-market solutions and shift the responsibility for solving environmental problems on to others (*Poortinga et al., 2004*).

We need to control our consumption choices and so what we used to think of as ‘consumer responsibility’ should rather be ‘consumer social responsibility’. Consumers must take responsibility for their activities and for society. We talk of corporate social responsibility, but neglect consumer social responsibility – and the latter is at least important as the former. We must accept responsibility to change human behaviours and empower future generations to react to environmental problems.

### **SUSTAINABILITY EDUCATION (SE)**

There is a general consensus on the notion of education as an important tool in achieving change and sustainable development (*Mochizuki and Fadeeva, 2010*). In consumer social responsibility, humans must adopt more sustainable lifestyles - but what does a sustainable lifestyle mean? To manage environmental problems we need to change human behaviour – namely, change culture. We must do more than raise awareness of opportunities; we must do it in a reasonable way. The challenge is to design ways to evaluate the effects of projects effects over the longer term and to make efforts to improve and achieve results. Education will help us to achieve society’s environmental goals (*Keene and Blumstein, 2010*).

Environmental education has an essential role in teaching people to respect nature and behave in a way which will preserve it. Sustainability education seems to be a suitable way for students to develop key competencies in sustainable development. Basic technical concepts behind pollution prevention and sustainable design are easy to explain to students, but technology, product quality and environmental assessment have changed over the last decade and continue to do so currently. We need to restructure the education to meet the requirements of the global economy, namely globalization.

UNESCO (2005) defined essential characteristics of the education for sustainable development. ‘All of them deserve attention, but we emphasize that education for sustainable development is interdisciplinary, locally relevant and culturally appropriate, and deals with the well being of all three realms of sustainability (environment, society and economy) and builds civil capacity for community-based decision-making, social tolerance, environmental stewardship, adaptable workforce and quality of life’ (UNESCO, 2005, 30-31. p.).

Sustainability is becoming the new point in environmental education, and emphasis is shifting from the traditional learning style to another solution. The issue of education in sustainability has developed from studying nature to taking a new look at the way we think, in which measures to sustain standards of living are pursued and environmental burdens reduced.

The sustainability education challenges basic assumptions, practices, and institutions of established disciplines. The sustainability education challenges both, what is taught in and how (Cortese, 2003). If our graduates are to cope creatively and successfully with society's most difficult problems, they must be exposed as students to those problems, and higher education needs to find innovative ways to develop students' capabilities (Rowe, 2007). Literature on education for sustainability calls for pedagogical innovations that provide interactive, experiential and transformative learning (Steinemann, 2003; Rowe, 2007; Sipos et al., 2008). UNESCO's (2009) Bonn Declaration calls for building the capacity for knowledge into action for sustainability, and calls for curricula to be oriented to meet this goal.

Pollution prevention, sustainable design and better (cleaner) production demonstrate our main value through industrial applications. It is, therefore, more important for students to have direct personal experience of environmental fields. The value of pollution prevention activity depends on a number of variables (e.g. the local community, regulatory drivers, technology, labour costs). The best solution depends on how well the student identifies the variables and gathers related data and how these data can be applied. Thus, learning how to identify and analyse these variables is an essential skill for implementing sustainable development.

There is a clear trend towards education in sustainable development education in both the school system and the corporate sector. In addition, if education is incorporated into education concerning sustainability, business can contribute more than it has done to date. We can achieve institutional cooperation in delivering sustainability education, and then we have a chance to create the societal change necessary for sustainability.

Effective education can produce a change in societal attitudes, values and actions. The focus on education for sustainability is a key element in creating sustainability-focused attitudes and values. Providing descriptions of the technologies and applications, then teaching the students how to recognise and use the latest innovations and how to evaluate new technologies are key topics in any sustainability courses. The students learn the mechanics of identifying, analysing and creating sustainability in the classroom. Fowler and Engel-Cox (2006) found that, until the students have practical experience applying pollution prevention and sustainable design recommendations to a real-life situation, they do not understand the complexity of the process. Although performing environmental assessments for real organisations is likely to involve more effort for both teacher and student than a traditional lecture-based course, the authors believe that the experiential learning activity is the more valuable investment for the students, community organisation and the university. Brundiers et al. (2010) words, 'bringing real-world issues in classroom' contributes the right way for sustainability education. To develop sustainable solutions for complex issues environmental scientists need boundary crossing skills next to domain specific knowledge and social skills (Fortuin and Bush, 2010). The scientists need to be able to intersect the barriers between theory and practice, but to how to cross these barriers is an ongoing debate.

The sustainability education helps students increase their understanding of sustainability problems, complement their methodological competence in applying problem solving approaches and gain hands-on experiences. Exploring, evaluating approaches makes students aware of the powerful role of values, resources, attitudes.

*Universities can and should apply radical innovations in their educational methods*, including curriculum, teaching, research and other services. Of course it is impossible define the appropriate competences for sustainability education. Without list of competences, universities need a deliberative and situated process of first specifying competences, and then articulating them in their educational programmes.

How university educational programmes can better preparation students to suitably deal with complex environmental issues and contribute to sustainable development? What should be taught, what should be learned, what abilities for acting, which concepts and problem solving strategies should have acquired as a learning process? What kind of complementary elements might we need in order to generate a positive cycle of change for sustainability? An environmental education programme will produce different outcomes since we have no clear goals or objectives.

Students and teachers try to focus on sustainability through challenge conventional methods of education and require new modes for integrative learning. Efforts to adjust curricula to meet these challenges are increasingly common (*Scholz and Tietje*, 2002; *Steiner and Posch*, 2006). Many of them focus researches, real life learning, and promote creative, self-regulated learning. They need to transport theoretical knowledge into the practice. The problem is the disciplinary gaps, are rooted in differences between scientific paradigm and languages and the real world. Several studies reported a positive relationship between higher education and environmental concern. Moreover, education has a stronger effect on environmental concern than has age, because, not just the intention but the knowledge that supports effective function. Teachers can stimulate to think critically, to act adequately, to make properly decisions by asking questions and providing tools. Facilitation rather than lecturing can be better methods. They need to expose the complexity of environmental and societal problems to students. *Fortuin and Busb* (2010) reveal that realize that one should cross boundaries to solve problems could be one of the most important elements in the education.

*Universities need for better understanding of, and innovations to sustainability challenges.* There are examples of how universities in different parts of the World are trying to facilitate students to develop competencies for sustainability. In other words, how they translate the concept of competence theory into actual learning activities, courses, programmes. There are many good examples of sustainability being incorporated into the curriculum, and other activities. Sustainability has become a general orientation for learning. But the outcome is very complex and unpredictable.

## BARRIERS TO SUSTAINABILITY EDUCATION

Sustainable development, sustainability is hard to define and implement, ultimately difficult to teach. Sustainability education is very complex issue. The lack of definition and methods are being blocked existing efforts to Sustainability Education.

The effectiveness of SE is debated in light of the requirements of nature and society. The economic and technological forecasting is ambiguous. An environmental education programme will produce different outcomes since there is lack of regarding goals. With environmental education we can cause irreparable damage to the environmental system when there is no evidence of environmental benefit. A lot of questions are to be raised. What should be taught and learned, which concepts and problem solving strategies should have acquired as a learning process? Further, traditional disciplines are being hardly inserting in a transdisciplinary framework.

Sustainability Education need to built a linkage between sustainability and economic well being of nations. Without linkage teachers need to integrate sustainability knowledge, skills, values to the curriculum, as they want.

One of the reasons why many communities perceive little attention for Sustainability Education is the *financial resources*. Reorienting education will require additional resources. Education for sustainability still remains an enigma to many schools, governments and individuals. While many of them have willingness to adopt Sustainability Education, are *no models* they can apply. It is also true that it is *impossible to create a curriculum would be successful to all* nations. Every communities need to define and improve own specific curriculum. Every community needs to develop their own sustainability goals and local educational system can create suitable programs and modify their curriculum.

Governments and schools are unaware of the linkages between sustainability and education. Moreover they need to develop a creative, innovative climate and implement different policies to give teachers; staffs have the right to adopt new pedagogical methods. Students and professors require new modes for integrative learning. However, it is much easier to talk and write on *development of revolutionary and innovative curricula* there are remarkable efforts to adjust curricula to meet these challenges (*Scholz and Tietje, 2002, Steiner and Posch, 2006*).

Unfortunately, the need to achieve sustainable development today is not perceived as an urgent task. Communities must be aware of necessity of Sustainability Education. The recognition and active participation of educational sector is inevitable. The most difficult obstacle is *lack of popularity of sustainability*. The themes of sustainability are not being current in nations.

There is no debate on universities' need for better understanding of and innovations to sustainability challenges. *Sustainability has become a general orientation for learning but in a lot of cases in words only*.

Some universities adopted sustainability strategies, the majority have only taken the minimum approach neither preparing their students to live in the green economy nor fulfilling them with responsibility. Nevertheless, one of university

focuses management, planning, others to curriculum and training, and others the daily practice. The tools have focused either operational practice without broader meaning, or theoretical framework without operation process.

## RESEARCH

The purpose of this paper is to analyze of how universities in different parts of the world are trying to foster students and staffs to develop a range of competences for sustainability. Change to more creative pedagogies, attention to real-world learning has led to development of knowledge and skills of the students.

I have developed 36 benchmarking indicators has been shown in *Table 1*. The websites of all ten universities (*Table 2*) have been studied carefully to obtain relevant data. With this method we can not say the level of commitment. Rather absence or presence of sustainability activities occurring in universities.

**Table 1**

### Benchmarking Indicators for Universities

Administration	Curriculum/study opportunities	Research	Operation	Other activities
Sustainability office	Undergraduate study	Research Centre/Institute	Energy	Conferences
Policies/Strategies	Postgraduate study	External Funding	Carbon Emission	Students group
Institutional declaration	Doctoral studies	Research Collaboration	Waste Recycling	Events
Action Plan	Environmental Sustainability Education (courses)	Journal	Building	Partnership
Awards	Student Research	Communication with Research Centre	Purchasing	Website
Sustainability Reports		Other research activities	Water	newspaper
Audit			Food	Raising awareness
			Paper	
			Conservation	
			Transportation	
			Fair Trade	
			Sustainability management System	

**Table 2**

**Analyzed Universities**

Europe rank	World rank	University
1	19	University of Cambridge
2	31	University College London
3	32	University of Southampton
4	41	University of Oxford
5	43	Swiss Federal Institute of Technology ETH Zurich
8	67	University of Edinburgh
11	85	Utrecht University
14	98	Freie Universität Berlin
23	113	University of Copenhagen
111	301	University of Manchester

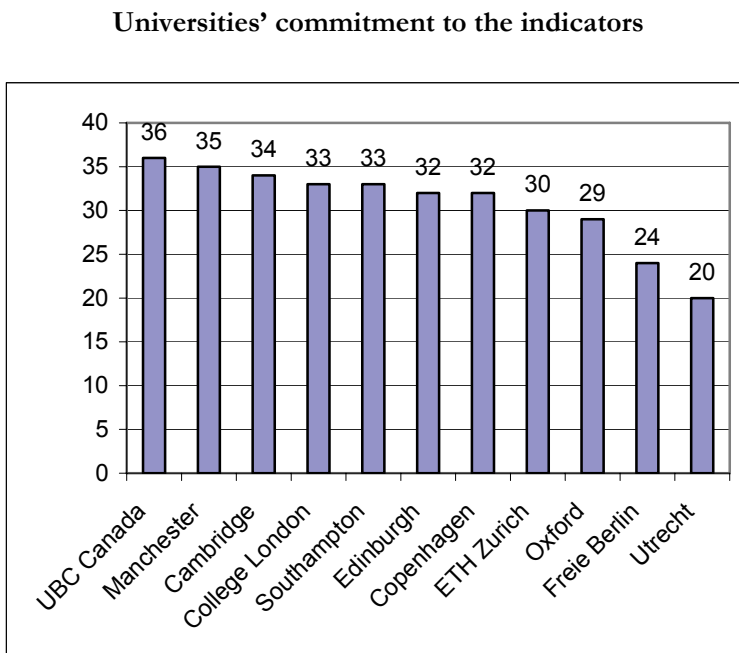
**RESULTS**

The analysis of websites partially shows the university’s commitment of sustainability (*Figure 1, Figure 2*). On this paper I had analysed only 10 preferred best practice. The highest mark is 36 due to UBC Canada, which our main take-off. Surprisingly, one of the best universities related to sustainability is not belongs to the best universities: University of Manchester. All universities have received maximum point for study opportunities; considering that their first function is providing education and training. Besides, every institution prefers technical aspects, such as energy, emission reductions, waste recycling, water, paper use efficiency, conservation, which are not only environmental friendly, but also cost-effective. They have integrated renewable energy systems into the built environment of campuses. Universities great emphasize on providing information to student.

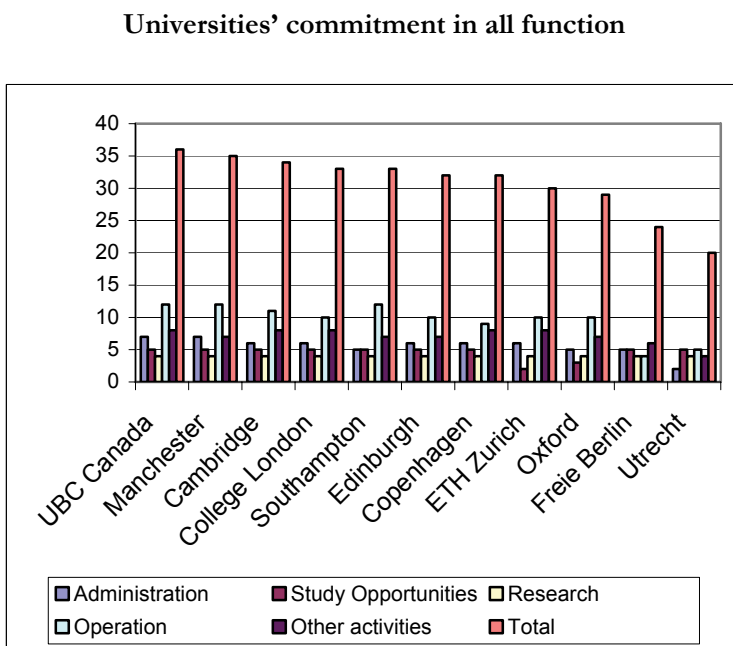
The problem is the motivation of individuals. Education without empiric learning to deliver theoretical knowledge into the practice will be meaningless. Fieldwork is very important to develop students’ ability to integrate classroom-based knowledge and to facilitate communication between participants (*Scholx and Tietje, 2002; Steiner and Posch, 2006*). Beside education, trainings, events, groups are the most significant source for understanding sustainable development values, and principles.

Students need new types of knowledge of sustainability to be incorporated into all courses is able to see global problem from many different perspectives. The new educational method need to move towards multidisciplinary cooperation to deliver new knowledge, values, attitudes. The best practice university’ methods emphasize the importance of knowledge networks in which student can exchange information understanding. The members of communities of practice learn from each other, are able to change their view and act on sustainability goals.

**Figure 1**



**Figure 2**





## CONCLUSION

With the present climate threats, the world community faces unique possibilities not only to unite across countries and continents, but to invent and explore new forms of social life, some of which will be more sustainable than others. Making progress towards sustainability is not just a problem of changes products and technologies, but rather an adoption of sustainable practices by governments, companies and consumers, but this cannot be achieved without a radical change in our lifestyle, our values and attitudes.

Sustainability education helps to raise public understanding of relevant practices as dynamic factors in the shaping of a new sustainable future.

In this paper we tried to show some illustrations of universities' commitment for development sustainability awareness of their students and employees.

Universities can and should produce graduates with values, skills, and knowledge addressed to sustainability. They have responsibility to define and facilitate sustainable development within their teaching and learning.

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