

Dimensions of Sustainability in Universities. Evolution. Instruments

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Abstract

The notion is sustainable, it is suggested that it is well established at the level of the whole society, which is attributed to education, everything is very important, but the role of higher education is a clearly more important decisive statement. Firstly the universities must become sustainable, and then to be reached a sustainable society. From the performed research activity, so far, we have identified a proposal for universities to become leaders.

Even though a lot of debates are on-going about sustainable development, in Romania it's acting at low level rates in the direction of both quantifying this concept and elaboration of a country specific model. There are very well known all the efforts put by the Romanian Statistics Institute on identifying of some indicators, for their own consolidation and, for collecting data and information.

Romanian higher education system can take over the proposed indicators by other experienced countries or can come up with its own set of indicators. In the first case, it becomes possible not just status evaluation or the changes made, but also the comparison with other prestigious foreign universities.

The chosen / applied indicators might be exploited to highlight all the progresses done by the universities on the everywhere of sustainable development and will allow decisive factors / entities to take correct solid decisions. Also, in this way the positive changes can be emphasized, which must be consolidated later.

Key words: sustainability, indicators, dimension, universities, measurement instruments

J.E.L. classification: M14, Q56, I23

1. Introduction

The universities that were noted in the modern era of 1800, were at the forefront of creating and resolving the emerging paradigms, educating decision-makers, entrepreneurs and future leaders (Elton, L., 2003). The specialized work identified a traditionalist trend of the manifestation of universities with a clear tendency of self-replication, (Walther, J., 2005) Many modern universities continued to rely on Newtonian and Cartesian thinking models, which confer Learning and the action of thinking a decisive role of thinking and those interpretation mechanisms.

At international level, the first notable changes in the mode of manifestation of universities are specified in the literature from the 17TH and 18TH centuries onwards. In England, universities supported excellence in educational systems and specifically targeted industry, and the Scottish universities in the 18TH century aimed at advanced science through inter-relational theory and practice. At first, some universities were established in the form of colleges, later became universities. Therefore, it took almost 200 years for this change if substantial contributions came from outside academic institutions, respectively from companies and industry.

Taking into account the level of evolution of the ÎS, the competition model began – the conquest of Nature through competition (“Conquest of Nature through competition”) industrialization, supra-specialization and disciplinary isolation. Thus, reductionist, monodisciplinary education and repetition testing have stimulated highly individualistic, fierce and self-interested behaviours – geared towards their own interests. As Brown cites from J. Bernal “in times of great creativity of science, artists and scientists have worked very closely and have been, in many cases, the same people (e.g. Leonardo da Vinci)”. The result of this separation [i.e. science and art] was the most incredible mutual ignorance. (Walther, 2005) .

From my research it turns out that over the last twenty years there have been a lot of universities that have contributed to sustainable development (SD). Other researchers come and say that the model of sustainable development of education (ESD) has not made its mark in all areas, such as: in all disciplines, for all the scientists involved or for the leaders of the university concerned. (Cortese, 2003).

From our research, we have identified the proposal for universities to become leaders, it is advisable to ensure that the needs of present and future generations are much better understood and constructed so that professionals who are well trained in sustainable development (Cortese, 2003) can effectively educate students of all ages to contribute to the "sustainable social models" stage, as shown in confessions, partnerships and conferences. To do this, the competent university leaders and cadres need to be empowered and aligned to implement new paradigms and be sure that sustainable development is the "golden gold" throughout the university, which includes the Interdependent elements: education, research; Campus activities, Extension, evaluation and community reporting.

2. Theoretical background

At the ONU conference in Stockholm in 1972 (UNEP, 1972), Education was identified internationally, finding it a major pillar for promoting, conserving the environment and protecting it. Since then, many projects have been extended that have undertaken academically, the memoirs, books and relationships that have been developed to promote Ecological Education (EE), Transposed Education in Sustainable Development (ESD) and Sustainable Development (SD), (Achim. M., 2011) In table 1 we presented a brief development of these initiatives, divided into three levels/elements of focus: society, education and higher education. It can be seen that since 1987 there has been a significant increase in these initiatives. Table 1 shows that most of the university declarations (seven out of eleven) have been developed in the European continent.

Table no. 1. A brief history of the initiatives taken by educational societies to maintain sustainable development

Year	The event / the statement	Level of reporting / adress
1972	Stockholm Declaration on the Human Environment, United Nations Conference on the Human Environment, Sweden	Society
1975	The Belgrade Charter, Belgrade Conference on Environmental Education, Yugoslavia	Education
1987	Tbilisi Declaration, Intergovernmental Conference on Environmental Education, Georgia	Education
1987	“Our Common Future”, The Brundtland Report	Society
1990	Talloires Declaration, Presidents Conference, France	Higher Education
1991	Halifax Declaration, Conference on University Action for Sustainable Development, Canada	Higher Education
1992	Report of the United Nations Conference on Environment and Development (Rio Conference); Agenda 21, Chapter 36: Promoting Education, Public Awareness and Training and Chapter 35: Science for Sustainable Development	Society

1992	Association of University Leaders for a Sustainable Future founded, USA	Higher Education
1993	Kyoto Declaration, International Association of Universities Ninth Round Table, Japan	Higher Education
1993	Swansea Declaration, Association of Commonwealth Universities' Fifteenth Quinquennial Conference, Wales	Higher Education
1993	COPERNICUS University Charter, Conference of European Rectors (CRE)	Higher Education
1996	Ball State University Greening of the Campus conferences were in 1997, 1999, 2001, 2003, 2005, 2007, and 2009	Higher Education
1997	Thessaloniki Declaration, International Conference on Environment and Society: Education and Public Awareness for Sustainability, Greece	Education
1999	Environmental Management for Sustainable Universities (EMSU) conference first held in Sweden. Following conferences in 2002 (South Africa), 2004 (Mexico), 2006 (U.S.A.), 2008 (Spain), and in 2010 in The Netherlands.	Higher Education
2000	Millennium Development Goals	Society
2000	The Earth Charter	Society
2000	Global Higher Education for Sustainability Partnership (GHESP)	Higher Education
2001	Lüneburg Declaration on Higher Education for Sustainable Development, Germany	Higher Education
2002	World Summit on Sustainable Development in Johannesburg, South Africa (Type 1 outcome:Decade of Education for Sustainable Development; Civil Society outcome: the Ubuntu Declaration)	Society
2004	Declaration of Barcelona	Higher Education
2005	Start of the UN Decade of Education for Sustainable Development (DESD)	Education
2005	Graz Declaration on Committing Universities to Sustainable Development, Austria	Higher Education
2009	Abuja Declaration on Sustainable Development in Africa: The role of higher education in SD, Nigeria	Higher Education
2009	Torino (Turin) Declaration on Education and Research for Sustainable and Responsible Development, Italy	Higher Education

Source: Adapted and updated after Calder and Clugston (2003) and Wright (2004).

In higher education, the level of integration of the concept of sustainable development may vary from the wording of acceptance at declarative level to integration into courses, education programmes and other activities selected for a complete reform of Education system. A more practical approach to promoting sustainable development is to accentuate tangible impacts on the environment. (Calder, W.,2003) in Europe, North America and other regions there are many examples indicating that the "greening" of campuses, improved waste management, energy saving innovations, make these operations much more sustainable for the environment. Such changes do not meet major resistance, since they facilitate the saving of funds. (Achim M.I 7/2013) These strategies increase the chances of initiatives to promote the concept of sustainability in higher education and will improve the moderate effect of the impact of the concept of sustainable development on education.

3. Findings

The concept of sustainable development (or sustainability) knows a wide use, it really is – perhaps – too often worn out, without Insist – to the same extent – and on a deepening and adaptation. Today, almost everything is carried out under the logo of sustainable development: society develops in the application of sustainable development; Education must become sustainable; The industry or agriculture develops sustainably; Research must support sustainable development; Water resources (or other kind) will be used sustainably, etc. And yet, is the concept

in its complexity and depth understood? Regarding the need to measure, the words of Lord Kelvin are well known, which states: "When you can measure what you are talking about and express it in numbers means you know something about it, but if you can't express it in numbers, your knowledge is Insufficient and unsatisfactory".

These words correspond to the tendency manifested in the earliest times of man, who wished to measure, determine, quantify the realities of the surrounding world and the phenomena they face. The desire to measure distances or surfaces, the need to determine the flow of time, the fixing of gears or weight of the bodies accompanied and can be said to have even determined the evolution of human society. (Denes, 2007)

In the modern age, all these parameters, all these sizes, dimensions or characteristics can be assimilated to the notion of indicators. (Lozano, 2006)

Indicators can play a decisive role in guiding the decisions of decision makers in one area or another and in transforming knowledge or society as a whole. These indicators actually move or quantify knowledge in the sphere of technical, social or humanistic sciences in information units, which may undergo a simple, statistical or decisional processing process (Calder, 2003). Thus, measurements and calibrations of stages and progress can be achieved in different areas, even in areas where physical dimensions are not evident.

Romanian higher education can take over the indicators established in other experienced countries or establish their own indicators. In the first case, it becomes possible not only to assess the state or changes made but also the comparison with other prestigious universities abroad.

The indicators you use will be used to highlight the progress made by universities in the aim of sustainable development and will allow decision-makers to make properly substantiated decisions (Lozano, 2006).

Positive changes will also be highlighted, which must then be strengthened.

Education for sustainable development is the process of gaining the knowledge, debates and skills needed to build local and global societies that are not only honest, but also have the right place in our planet's environment, both now and in the future by the Fund. European social through the operational program of human resources development. According to the Brundtland report, education, sustainable development in higher education can be interpreted as (Report of regional debate, "Educated Romania", internationalization of Romanian higher education: challenges and perspectives;) elaboration of school programs and pedagogical methods for equipping students with inclined and knowledge needed to survive and work sustainably (Walther, 2005) .

It can be done by:

- Designing/organizing the curriculum structure from a holistic perspective;
- Introducing new education programmes, new disciplines or new chapters on sustainable development;
- Interdisciplinarity and critical thinking;
- Learning and teaching through experimentation;
- Informal learning.

4. Conclusions

Sustainable development is a challenge for universities especially in relation to the communities in which they operate. It is a unique challenge because, as teaching providers, universities represent the opportunity and consequence, problem and solution. In order to have a positive impact, sustainable development must resonate with people in their daily lives. Teaching providers have a major role to play in supporting companies, developing the skills and attitudes needed to meet the challenge that is sustainable development.

5. References

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