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The future we want

Key issues on sustainable development in higher education after Rio and the UN decade of education for sustainable development

Walter Leal Filho

School of Science and the Environment, Manchester Metropolitan University, Manchester, UK

Evangelos Manolas

Department of Forestry and Management of the Environment and Natural Resources, Democritus University of Thrace, Orestiada, Greece, and

Paul Pace

Centre for Environmental Education & Research, Faculty of Education, University of Malta, Msida, Malta

Abstract

Purpose – This paper aims to provide a description of the achievements of the United Nations (UN) Decade of Education for Sustainable Development (2005-2014) with a focus on higher education, and it describes some of the key issues which will guide sustainable development in the coming years.

Design/methodology/approach – The paper initially presents an analysis of past developments, complemented by an assessment of the emphasis on sustainable development by the *International Journal of Sustainability in Higher Education*. In particular, it makes cross-references to the deliberations held at the UN Conference on Sustainable Development held in Rio de Janeiro, Brazil, in June 2012, with a special emphasis to the document "The Future we Want". It concludes by listing a set of suggestions and measures that both industrialised and developing countries may consider to translate the principles of sustainable development into reality.

Findings – Sustainable development is and will continue to be a matter of substantial international interest and concern. The developments achieved over the past 20 years have been substantial, but there are still many gaps and need which need to be met, so as to improve its prospects in the next two decades.

Originality/value – The paper provides useful insights which allow a better understanding of the role of universities in fostering sustainable development, and some of the key issues need to be considered, so as to allow things to move in the right direction.

Keywords Sustainability, Education for sustainable development, Higher education, Sustainable development, Post Rio+20, Rio+20

Paper type Research paper

1. Introduction

The history of environmental education has been marked by a number of events, some of which with a historical nature, which have laid the basis for the developments seen today. The literature has well-documented records of the

importance of the Stockholm Conference in 1972 (with the subsequent creation of the UN Environment Programme in 1974), the organisation of the intergovernmental environmental education conferences in Belgrade (1975), Tbilisi (UNESCO-UNEP, 1978) and Moscow (1987), which led to the conclusion that environmental education could greatly contribute to sustainable development (UNESCO-UNEP, 1988).

Another historical development worthy of mention was the publication of the Newsletter "Connect" which, since its establishment in 1975 and up to its interruption in 1987, was a central instrument of communication among environmental educators across the world. This pre-Internet tool was published in various languages (e.g. English, French, Russian, Arabic, etc) and circulated across the world, providing access to information about good practices and acting as a bridge for the environmental education community.

Further to the work of the World Commission on Environment and Development and subsequent launching of "Our Common Future" (WCED, 1987), a further momentum was given, with the UN Conference on Environment and Development (UNCED) held in Rio de Janeiro, Brazil, in June 1992, which led to the launching of Agenda 21 (UNCED, 1992). This event, in turn, triggered the Athens workshop on how to re-orient education towards sustainable development in 1995 (UNESCO, 1995; Scoullos, 1995), and was followed-up by the World Summit on Sustainable Development (WSSD) held in Johannesburg in 2002 and, more recently, the World Conference on Sustainable Development held in Rio de Janeiro in June 2012.

All these events can be regarded as landmark occasions, where progress in the ways environmental education as a whole – and education for sustainable development in particular – were seen. This is so for three main reasons:

(1) they were among the most innovative events at their times, and have addressed the problems seen then, some of which still persist today;

(2) they were especially dedicated towards mobilising government support to environmental education; and

(3) they were instrumental in catalysing actions at the national level, especially in those countries where environmental education was not given the emphasis it required.

Even though much progress has been seen over the years – partly thanks to the hard work of many people, starting with the pioneer work done by the late Bill Stapp in the late 1970s – today's actors do not always draw from the experiences or the wisdom from of the past, and, consequently, a lot of energy and resources are wasted in reinventing the wheel (Pace, 2009, 2010). The history of dedicating decades to address specific topics contains a mixture of successes and failures.

For instance, the current UN Decade on Education for Sustainable Development (2005-2014) is far from being a new idea. The 1990s were also designated as the "International Decade of Environmental Education", and many activities were jointly organised by the two organisations concerned with environmental education at the time, namely, UNESCO and UNEP. Both have successfully initiated and coordinated the UNEP – UNESCO International Environmental Education Programme (IEEP), whose activities were characterised by:

- coordinated and jointly funded efforts, prioritizing developing countries;
- a strong emphasis on education and capacity-building, addressing one of the major barriers to education for sustainable development – still seen today – i.e. a lack of training;
- inclusive attempts to mobilise and draw from the competencies and experiences of many experts known for their work and commitment to environmental education; and
- a wide documentation and communication of a plethora of initiatives – a considerable achievement, considering that this was done in an era where there was little or no use of the Internet.

Furthermore, IEEP produced a well-known book series (i.e. the Environmental Education Series), with key texts written by leading environmental educators, whose aim was to provide a theoretical basis and support practical activities on the ground. The series addressed the emerging needs of various sectors, as exemplified by some of the titles listed below:

- *Issue 5*: Environmental education module for pre-service training of teachers and supervisors for primary schools (1983).
- *Issue 6*: Environmental education module for in-service training of teachers and supervisors for primary schools (1985).
- *Issue 9*: Environmental education module for pre-service training of social science teachers and supervisors for secondary schools by Savita Sinha (1985).
- *Issue 13*: A guide on environmental values education by Michael J. Caduto (1985).
- *Issue 14*: Interdisciplinary approaches in environmental education (1985).
- *Issue 15*: A problem-solving approach to environmental education by Arnold J. Pomerans (1985).
- *Issue 22*: Procedures for developing an environmental education curriculum: A discussion guide for UNESCO training seminars on environmental education by Harold R. Hungerford (1994).
- *Issue 25*: Strategies for the training of teachers in environmental education: A discussion guide for UNESCO training seminars on environmental education by Richard J. Wilke; R. Ben Peyton & Harold R. Hungerford (1994).
- *Issue 26*: Environmental education: A process for pre-service teacher training curriculum development (1988).
- *Issue 27*: An environmental education approach to the training of elementary teachers: A teacher education programme (1994).

All in all, materials were produced in five languages and disseminated in libraries across the world.

When exploring the key issues on education for sustainable development since Rio, and examining future prospects – as this papers intends to do – it is important that one refers to the background and historical developments outlined here, which help towards an understanding and contextualisation of the issues at hand today.

2. A description of the achievements of the UN Decade of Education for Sustainable Development (2005-2014) in higher education

The links between sustainability and higher education are strong, and these have been emphasised in various works (Leal Filho, 1999, 2000a, 2002; Cortese, 2003). The need to communicate sustainability was emphasised in a landmark publication titled *Communicating Sustainability* (Leal Filho, 2000b) produced as part of the series *Environmental Education, Communication and Sustainability*, which, since its launch in 1998, has become the world's longest running book series on the topic.

The foundations of the UN Decade of Education for Sustainable Development (2005-2014) were initially laid in 1992 at UNCED. To foster attempts to promote sustainable lifestyles, the UNCED produced important landmark documents such as Agenda 21 (UNCED, 1992) and the Rio Declaration on Environment and Development, among others.

UNESCO was the appointed body responsible for the management of Chapter 36 of Agenda 21 on education, training and public awareness, with four important goals:

(1) promoting and improving the quality of education;

(2) reorienting the existing education programmes;

(3) raising public awareness and understanding of the concept of sustainable development; and

(4) fostering environmental education and training (UNCED, 1992).

Ten years after Rio, the World Summit on Sustainable Development held in Johannesburg, reviewed the outcomes achieved since 1992. Like other similar previous conferences, the 2002 Johannesburg meeting stressed the importance of education and learning in fostering the cause of sustainable development. The event confirmed that progress towards achieving sustainability (since Rio) has been rather limited and hoped to give a new impetus by fostering the cause of education for sustainable development and to mainstream it in all sectors of education, thus promoting the adoption of sustainable lifestyles and decision-making. In addition, in Johannesburg, a further landmark publication was launched, titled *International Experiences on Sustainability* (Leal Filho, 2002), which served the purpose of not only illustrating the degree of progress reached since UNCED in Rio but also outlining some of the gaps.

Another important outcome of the Johannesburg Summit was the adoption of Resolution 57/254 which declared the period from 2005 to 2014 as the UN Decade of Education for Sustainable Development (DESD). Some landmark events since this UN decision include:

- The publication, in 2005, of the *Handbook of Sustainability Research* (Leal Filho, 2005) that documented research methods and practice-based studies, illustrating how principles of sustainability may be implemented in practice.

- The 34th session of the UNESCO General Conference, in 2007, stressing that serious efforts had to be made by governments and UNESCO to reorient education for sustainable development worldwide.

- UNESCO's mid-Decade World Conference on Education for Sustainable Development, held in Bonn, in 2009, which produced an action plan for ESD, as well as guidelines for the second half of the Decade.

Other UN initiatives and reports promoting the importance of DESD worldwide include the Human Development Report of 2011that emphasised the role of ESD in promoting sustainable consumption and the 2012 Report of the UN Secretary-General's High-Level panel on Global Sustainability which refers to the importance of DESD. Parallel to these reports, two further publications were produced as part of DESD that further reiterated the contribution of higher education to sustainable development, namely, *Sustainability at universities: Opportunities, challenges and trends* (Leal Filho, 2010) and *Sustainable development at universities: New horizons* (Leal Filho, 2012), published during the 2012 UN Conference on Sustainable Development.

With regard to the evolution of ESD in higher education, one notable development was the launch of the *International Journal of Sustainability in Higher Education* (IJSHE) in 2000. IJSHE was the first peer-refereed journal – and, to date, it is still the only journal – to specifically and solely focus on the dissemination of research on sustainability issues at higher education institutions. An analysis of the papers published between 2000 and 2013 shows that the journal provided a substantial contribution to the process by publishing articles focussing on issues such as environmental management, university greening and the reduction of the university's ecological footprint.

In the period of 2000-2013, IJSHE published 14 volumes or 55 issues containing a total of 362 papers. In addition to normal issues, the journal also published 13 special issues. In particular, during the 14 years of activity examined in this paper, the journal has published the following special issues:

- Special issue on higher education for sustainable development with the WSSD in mind (Vol. 3, Issue 3, 2002).
- Special issue on student environmental sustainability initiatives on college and university campuses around the world (Vol. 4, Issue 3, 2003).
- Special issue on transformation which highlights curriculum change, the significance of change and the absence of theorizing about change and action in institutional contexts towards sustainable development in HE institutions (Vol. 5, Issue 1, 2004).
- Special issues on engineering education in sustainable development (Vol. 5, Issue 3, 2004 and Vol. 6, Issue 3, 2005).
- Special issue on applying transdisciplinary case studies as a means of organizing sustainability learning (Vol. 7, Issue 3, 2006).
- Special issue on Sustainability: providing new insights for education (Vol. 8, Issue 2, 2007).
- Special issue on "Sustainable University" a holistic approach to sustainability in higher education institutions (Vol. 8, Issue 4, 2007).
- Special issue on Regional Centres of Expertise of education for sustainable development in their major areas of activity (including policy and administration, campus operation, research and scholarship, education and teaching and service to communities) (Vol. 9, Issue 4, 2008).
- Special issue on climate action planning at North American colleges and universities (Vol. 10, Issue 3, 2009).

- Special issue on sustainability in higher education in the Asia–Pacific Region: Developments, challenges and prospects (Vol. 11, Issue 2, 2010).
- Special issue on competencies for sustainable development and sustainability: significance and challenges for ESD (Vol. 11, Issue 4, 2010).
- Special issue on learning for transformation from the EESD'10 conference (Vol. 13, Issue 3, 2012).

Table I shows the gender distribution of the 868 authors published from 2000 to 2013. The 868 authors include, as separate authors, all the authors whose work was published more than once in the journal and two entities which were identified as authors, but not as having a particular gender, as they were listed as the *Working Group of the Green Health Center* and *Exploring Bioethics Upstream* projects and *TKT Consulting*.

Table II presents information on the number of authors per publication. All the authors whose works have been published more than once in the journal are counted as separate authors.

Regarding the authors' professional status, Table III shows the academic ranks of 464 authors. Information regarding author status was derived from the biographies of the authors themselves as published at the end of each article. Although covering the period of 2006-2013, it must be noted that the journal started providing systematic information on the professional status of its authors from 2008 onwards. In the few instances in which an author's professional status was not identified clearly in the biographies, this person's status was determined from the information given in the biographies.

Table IV shows the geographical provenience of the published papers. If a paper has authors from different geographical regions, then all these geographical regions were credited regarding authorship of the paper.

Table V shows the types of articles published in the journal. The journal distinguishes between six types of contributions: research, conceptual article, case study, general review, viewpoint and technical paper. When an article was classified

Year	No. of published authors	Male	Female	
2000	31	21	10	
2001	38	29	9	
2002	47	26	21	
2003	71	43	28	
2004	46	27	19	
2005	68	41	27	
2006	50	34	16	
2007	71	46	25	
2008	99	54	45	
2009	67	30	37	
2010	58	31	27	
2011	62	33	29	
2012	72	40	32	**Table I.**
2013	86	38	48	Gender of authors,
Total	866	493 (57%)	373 (43%)	2000-2013 ($N = 866$)

Year	No. of articles	No. of published authors	No. of papers written by one author	No. of papers written by two authors	No. of papers written by three or more authors
2000	18	31	10	4	4
2001	23	38	13	7	3
2002	26	48	12	7	7
2003	26	71	10	4	12
2004	27	46	16	4	7
2005	24	68	5	7	12
2006	25	50	10	10	5
2007	29	72	7	11	11
2008	32	99	4	11	17
2009	27	67	8	6	13
2010	26	58	9	10	7
2011	25	62	4	12	9
2012	26	72	3	10	13
2013	28	86	7	7	14
Total	362	868	118 (32.59%)	110 (30.38%)	134 (37.01%)

Table III.
Professional status of
authors, 2006-2013
(*N* _ 464)

Year	Professor	Associate Professor	Assistant Professor	Lecturer	Instructor	Researcher	University employee	Company employee	Student	No. of authors
2006	1	2	2	2		1		1	3	13
2007	5	3	5	7		1	8		4	33
2008	22	8	12	8	4	15	8	3	11	91
2009	10	7	16	2	1	6	7		8	57
2010	15	8	3	3		15	7	3	1	55
2011	17	4	10	2	2	9	8	2	8	62
2012	4	15	9	6	7	11	9	3	4	68
2013	11	12	20	4	3	13	10	2	11	86
Total	85 (18.31%)	59 (12.71%)	77 (16.59%)	34 (7.32%)	17 (3.66%)	71 (15.30%)	57 (12.28%)	14 (3.01%)	50 (10.77%)	464

Year	Europe	North America	Latin America	Africa and Middle East	Australasia	No. of papers
2000	14	8			6	28
2001	16	10		1	5	32
2002	13	6	1	1	5	26
2003	8	13			5	26
2004	11	7		4	5	27
2005	9	13	2		2	26
2006	12	11		1	3	27
2007	13	13	1	2	2	31
2008	14	13	2		9	38
2009	6	15	1		6	28
2010	7	9	1		13	30
2011	6	15	1		4	26
2012	13	9			4	26
2013	6	12		1	12	31
Total	148 (36.81%)	154 (38.3%)	9 (2.23%)	10 (2.48%)	81 (20.14%)	402

Table IV.
Geographical coverage of manuscripts, 2000-2013 (*N* = 402)

Year	Research	Conceptual	Case study	Review	Viewpoint	Technical report	No. of papers
2000	10	2	8	1	1	1	23
2001	6		7	6	2	2	23
2002	6	1	9	9	1		26
2003	13		10	3			26
2004	15	5	6	1			27
2005	10	2	8	3	1		24
2006	8	2	14		1		25
2007	15	1	13				29
2008	8	6	18				32
2009	10	1	13	1	2		27
2010	17	1	6		1		25
2011	15	1	8	1			25
2012	13	4	8		1		26
2013	19	2	7	1			29
Total	165 (44.95%)	28 (7.62%)	135 (36.78%)	26 (7.08%)	10 (2.72%)	3 (0.81%)	367

Table V.
Types of articles published, 2000-2013 (*N* = 367)

simultaneously as belonging to two types of articles, for the purposes of this paper, both types of articles were credited.

These data evidence that IJSHE provided a solid basis for the documentation and dissemination of matters related to sustainable development in higher education and has been instrumental in supporting the DESD process.

The publication *The Future We Want* (United Nations, 2012b) acknowledged the need for action in all areas herewith outlined. Finalised and agreed at the World Conference on Sustainable Development held in Rio de Janeiro in June 2012, the document is meant to advance action on sustainable development and has been complemented by hundreds of voluntary commitments to shape a more sustainable

future for the benefit of the planet and its people. The document calls for a wide range of actions including, among others:

- launching a process to establish sustainable development goals (SDGs);
- detailing how the green economy can be used as a tool to achieve sustainable development;
- strengthening the UN Environment Programme and establishing a new forum for sustainable development;
- promoting corporate sustainability reporting measures;
- taking steps to go beyond gross domestic product (GDP) to assess the well-being of a country;
- developing a strategy for sustainable development financing;
- adopting a framework for tackling sustainable consumption and production;
- focussing on improving gender equality; and
- stressing the need to engage civil society and incorporate science into policy (United Nations, 2012b).

Finally, the document recognises the importance of voluntary commitments on sustainable development. To allow its full implementation, it is important to analyse the key issues which will guide the international debate on sustainable development, a matter tackled in the next section of this paper.

3. Some of the key issues which will guide sustainable development in the coming years

Even a cursory review of the major documents reporting or reflecting about sustainable development (United Nations, 2010, 2012a, 2012b, 2013) reveals a recurrent concern about the *sluggish*, *uneven* and *negligible* progress registered. Furthermore, there is also a sense of urgency that if we fail to engage in *dramatically faster progress* we might run the risk of *undoing* or even *reversing* the progress made (United Nations, 2010). While keeping the achievements made and the experience gained over these last decades as a backdrop, this section will attempt to candidly explore the true motives limiting progress and propose ways how they can be addressed and possibly overcome.

3.1 From rhetoric to action

One of the major stumbling blocks is the overuse of and obsession with technical jargon that detracts attention from what is really important, i.e. action. For example, the predominant paradigm inherent in the understanding of the term "environment" tends to reflect an economic perspective where the environment is seen as a bank of resources just waiting to be exploited rather than an essential component of our being. The crux of the issue lies in that, whereas for some, the latter perception is a purely academic exercise; for a large percentage of the human population, trying to scratch a living from their surroundings is an everyday reality they have to contend with or perish. Consequently, as long as policies and strategies are structured and managed by people whose well-being is not under immediate threat, then the urgency to get things sorted out gets back-burner treatment.

Since the Johannesburg Rio+10 Summit, there is the repetitive use of the phrase *sustainable development and poverty eradication* instead of the usual *sustainable*

development. This could be a deliberate attempt to break from the predominant economic rhetoric that has plagued sustainable development discourse and to shift and focus attention on the other neglected pillars of sustainable development. In fact, the stated intention is:

> […] to accord the highest priority to poverty eradication within the United Nations development agenda, addressing the root causes and challenges of poverty through integrated, coordinated and coherent strategies at all levels (United Nations, 2012b, paragraph 106).

Another possible indication of this "new" focus and renewed commitment is the way Sustainable Development Solutions Network (SDSN) refers to *economic development (including the end of extreme poverty)* (United Nations, 2013, p. 1).

Throughout these past few decades, we have generated research, gathered data, developed plans and proposed worldwide strategies – yet we still turn a blind eye to:

- the fact that not all states endorse actions for the agreed (sic) benefit of humankind;
- countries that generate wealth at the expense of other nations and through oppression of their own citizens; and
- economic exploits by multinationals (such as the privatisation of freshwater reserves) that jeopardise ecosystems and human populations.

This mismatch between what is being invested in sustainable development (and, consequently, in ESD) and its returns, brings to mind the maxim attributed to Einstein that: *the significant problems we have cannot be solved at the same level of thinking with which we created them*. Real progress in sustainable development needs a new methodology of how we operate. For example, when allotting funds for sustainable development (and ESD), we need to establish structures that monitor how much of this support is *inflated* as opposed to *genuine* (Kharas, 2007; Aidwatch, 2013). In other words, we need to start asking awkward questions to establish where the financial support is going. Is it reaching the grassroots and tangibly addressing community-based initiatives? or is it being siphoned off to fund "experts", reports and documentation that, while using all the appropriate terms and buzz words, further alienate the world community from the urgent matters.

A more authentic response to the challenges that sustainable development levels at the predominant economic paradigm should be structured around the attainment of the values of "care (for oneself, one another, future generations and the larger living world), peace, truth, justice, tolerance and kindness" (CEE, 2007, paragraph 4.2) that put the "respect and care for the community of life" as a top priority (IUCN/UNEP/WWF, 1991).

3.2 More pillars

After examining the current literature on sustainable development, Burford *et al.* (2013) identify three additional pillars to the traditional three-pillar model for sustainable development:

(1) *The Cultural Pillar (or cultural diversity)*: The inclusion of the cultural dimension in sustainable development discourse has gathered momentum and seems to have won itself a place in the list of sustainable development pillars seamlessly (CEE, 2007; UNESCO, 2009a, 2013). The policy statement issued by United Cities and Local Governments (2010) not only claims that "the trio of economic growth,

social inclusion and environmental balance no longer reflect all the dimensions of our global societies" but also that "the lack of consideration of the cultural dimension of development is hindering the possibility of achieving sustainable development, peace and well-being".

(2) *The Political (or Institutional) Pillar*: The UN Division for Sustainable Development (2001) acknowledged this pillar as one of the primary dimensions of sustainable development and proposed a set of sustainable development indicators for this particular dimension. More recently, the SDSN (2013, p. 1, p. 8) referred to this pillar as "[…] good governance including peace and security" and proposes ten SDGs and 30 related targets that are "[…] all interconnected, and each one contributes to the four dimensions of sustainable development".

(3) *The Spiritual Pillar*: This is seen as the antidote required to counteract the negative impacts of the predominant economic paradigm that values profit more than life. The reason for this dominance was only possible because of a lack of *any moral or spiritual guidelines* (SAFCEI, 2010). According to Rockefeller (2010), this pillar, besides providing an opportunity for the internalisation of values that promote sustainable development, induces action.

Burford et al. (2013, p. 3,038) point out that all these proposed pillars have one thing in common: "a concern with human values and how they are manifested in people's personal and professional lives". This emphasis on values tends to shift the development of sustainable development goals, targets and indicators from "a convenience-driven technical approach ("what can be measured") […] towards a normative approach based on creative and critical thinking ("what should be measured")" (McCool and Stankey, 2004 as cited by Burford et al., 2013, p. 3,050).

There is however, an ever-present threat that has plagued progress in sustainable development (and consequently ESD) that this "new" emphasis will generate a plethora of new jargon, but very little action. Consequently, tough, albeit required, actions get sidetracked and replaced by politically ultra-safe practices that do not fit the bill, yet are presented in reports as examples of good practice. The result is a lack of good transformative practices to follow and a persistence of the status quo.

3.3 Targeting policymakers

Another trend that continued to develop from the early 1990s was the extending of responsibility of furthering sustainable development to include the civil society. This might be a tacit admission that a completely top-down approach to the implementation of sustainable development, as was the traditional approach, is not working as planned. Rio + 20 went a step further by declaring that sustainable development:

[…] can only be achieved with a broad alliance of people, governments, civil society and private sector, all working together to secure the future we want for present and future generations United Nations (2012b, paragraph 13).

The major driving force for this stance is a recognition that "[…] people's opportunities to influence their lives and future, participate in decision making and voice their concerns are fundamental for sustainable development" United Nations (2012b, paragraph 13).

This provides ample argumentation for the efforts to provide ESD for all. In fact, although examples of good practice might be presented under the aegis of a particular organisation, in most of the cases, the driving force of the initiative can be traced to the personal commitment and conviction of an individual or albeit a group of individuals within that organisation.

However, a closer analysis of the documents of the key ESD conferences reveals that although every sector of society is usually mentioned and specifically targeted, the ESD envisaged for policymakers is indirect and taken for granted. There is the inherent assumption that policymakers receive their ESD either from their formal education years or from training programmes related to their employment (not their policy-making role). The challenge that needs to be addressed is how to target this hard-to-access and powerful cohort of persons to ensure mutual understanding of the various facets of sustainable development and the political constraints within which they have to operate. Thus, we would be in a better position to set achievable targets rather than targets that are doomed to fail from the start.

This involves conceiving ESD differently by focussing on the process rather than on the product – because at the end, good environmental education is good education (Smyth, 1995). Since its conception at Tbilisi, ESD (i.e. environmental education) had to be a lifelong process preparing the individual for life. In other words, ESD had to be a means to an end (i.e. promoting a better quality of life), rather than an end in itself (i.e. achieving academic or vocational qualifications).

4. Some measures to translate the principles of sustainable development into reality

This paper has outlined the degree of progress in respect of ESD implementation in higher education against the background of an evolving notion of sustainable development. However, this review would not be complete if it did not refer to the measures needed to enable industrialised and developing countries, to take more advantage of the many opportunities the DESD, in particular future developments, may offer. The following are some measures that may be considered:

- It is important to strengthen sustainable development-related competencies such as: understanding complexity; identifying connections and interdependencies; participating in democratic decision-making processes; and critically questioning systems, policies and routines that appear fundamentally unsustainable. Researchers should aim at researching and developing new forms of teaching and learning together with the kinds of curricula, learning environments and school–community relationships which are important for the consolidation and promotion of such competencies. In addition, there is a need for strengthening more integrated forms of teaching and learning (UNESCO, 2009b).

- It is also important to encourage multi-stakeholder dialogue among individuals and organisations that represent the economic, social, cultural and environmental aspects (and other relevant dimensions) of sustainable development (UNESCO, 2009b).

- More emphasis should be given to a methodological justification of research as opposed to paying attention to details about methods and outcomes. Without such methodological justification, readers cannot "[…] get a purchase on the rigour

with which the research has been conceptualised and carried out" (Scott, 2009). In addition, "[…] writers would need to spell out their assumptions and preferences, and readers would know where they stood" (Scott, 2009).

- More attention should be given to questions about ends in research. Such questions are normative, i.e. they are questions about value-laden ideas, and they are underrepresented in the research literature. Such questions, as they concern "ethics" and "education", open or re-open important areas for inquiry (Jickling, 2009).

- In addition to the use of benchmarking (Kamal and Asmuss, 2013) as tools for assessing and tracking sustainability in institutions of higher education, the creation of accessible ESD knowledge-sharing platforms for different kinds of audiences making use of information and communication technologies can make ESD resources much more accessible. The aim should always be that such resources should be available in several languages. Simultaneously, efforts to continuously review and update such resources should never cease. The production of open-source, open-access resources for ESD (e.g. ESD wikis) might be an attractive option for ESD resource-sharing and development (UNESCO, 2009b).

- Raising funds for ESD activities and projects is very important for materialising the goals of DESD. Funding for ESD should not be sought from governments only. Multilateral/bilateral donors, as well as private bodies, can potentially be important contributors (UNESCO, 2009b).

- The exchange of experiences at an international level is also too important to ignore. International cooperation can be organised around issue clusters with compatible structures, whereby international organisations and rules can be used as anchors eliciting action by constituencies. Although such changes to global governance will not constitute magical solutions of collective problems, they might start a new legacy for discovering new and innovative pathways to a greener future (Andonova and Hoffmann, 2012).

- A systems approach to education for sustainability in higher education is needed (Littledyke *et al.*, 2013). In particular, teacher education programmes need to train professionals in an interdisciplinary manner, thus providing a holistic understanding of a sustainable future and the role of individuals, communities and nations in a sustainable world. The development of this expertise will affect how fast nations will move towards sustainability (McKeown, 2002).

- There is a need for a further understanding and promotion of campus sustainability, using a systems framework (Posner and Stuart, 2013). Universities need to practice what they preach by reducing their use of and dependency on non-renewable resources. However, the predominant culture in many institutions is that of a "disposable culture" – a reflection of the prevalent way of life in most popular cultures and government policies (McKeown, 2002).

Over 600 universities worldwide have committed themselves towards sustainability by signing international agreements and conventions such as the Bologna Charter, the Halifax Declaration, the Talloires Declaration and the Copernicus Charter for

Sustainable Development. It is hoped that these measures – being of special interest to the signatories – may catalyse more systematic action.

5. Conclusions

This paper attempted to document the evolution of the notion of sustainable development and to promote the various initiatives performed on the ground by the IJSHE, while identifying future research needs. It has also described the degree of progress achieved and the developments seen, to date, in this field. But these trends should not distract from the fact that the UN Decade on Education for Sustainable Development has had many deficiencies (Leal Filho, 2014) and that several important actions are needed.

In addition, to achieve its aims, the promises made in *The Future We Want* need to be substantiated by a combination of elements such as:

- · suitable financial resources;
- · better coordination systems with clear indicators and deliverables that may allow progress to be monitored and assessed;
- · a strong emphasis on best practice that may be replicable; and
- · a stronger involvement of the higher education community that may initiate a chain reaction that improves ESD provision in formal, non-formal and informal settings.

Furthermore, a better use of visual arts and technologies should be made, so as to help people better understand how sustainable development can improve the quality of their lives and communities. After all, if we all want a better future, everyone needs to have the chance to get involved.

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About the authors

Walter Leal Filho is a Senior Professor at Hamburg University of Applied Sciences in Germany, and he holds a Chair on Environment and Technology at Manchester Metropolitan University, UK.

Evangelos Manolas is an Associate Professor in the Department of Forestry and Management of the Environment and Natural Resources at the Democritus University of Thrace, Greece.

Paul Pace is an Associate Professor at the Faculty of Education and Director of Centre for Environmental Education and Research, at the University of Malta. Paul Pace is the corresponding author and can be contacted at: paul.j.pace@um.edu.mt

Department of Chemical Engineering, Texas A&M University, College Station, Texas, USA Department of Chemical Engineering and Materials Science, Wayne State University, Detroit, Michigan, USA Department of Civil and Environmental Engineering and Center of Excellence in Environmental and Energy Systems, Syracuse University, Syracuse, New York, USA McKetta Department of Chemical Engineering, The University of Texas at Austin, Austin, Texas, USA Department of Chemical Engineering, Auburn University, Auburn, Alabama, USA Artie McFerrin Department of Chemical Engineering, Texas A&M University, College Station, Texas, USA . 2017. Using module-based learning methods to introduce sustainable manufacturing in engineering curriculum. *International Journal of Sustainability in Higher Education* **18**:3, 307-328. [Abstract] [Full Text] [PDF]

2. DharmasasmitaAldilla Aldilla Dharmasasmita aldilla.dharmasasmita@ntu.ac.uk Aldilla Dharmasasmita is based at Green Academy, Nottingham Trent University, Nottingham, UK. She is the Academic Associate for the HEA Green Academy Food for Thought' Project for Nottingham Trent University and an Associate Lecturer with Nottingham Business School (NBS). She plays a key role in developing and embedding innovative online pedagogies for the University's curriculum in sustainability across all faculties, the Sustainability in Practice Certificate, a project shortlisted for the Green Gown Award in 2014. Her role at NBS includes supervising final-year students in Greenhouse Gas Management projects, which won The Guardian University Award in 2015. As a PhD candidate at NBS, her area of speciality is ESD in Business Schools and the business world. PunthaHelen Helen Puntha helen.puntha@ntu.ac.uk Helen Puntha is Research Officer at Centre for Academic Development and Quality, Nottingham Trent University, Nottingham, UK. She is a Deputy Lead for the HEA Green Academy "Food for Thought" Project for Nottingham Trent University. She completed Masters on the effectiveness of breastfeeding support services and has a continuing interest in nutrition, health and wellbeing viewing these as vital aspects of sustainability work. As a Research Officer for the University Centre for Academic Development and Quality, she also works in the areas of active learning and assessment and feedback and coordinates undergraduate research scheme SPUR (Scholarship Projects for Undergraduate Researchers). Molthan-HillPetra Petra Molthan-Hill petra.molthan-hill@ntu.ac.uk Dr Petra Molthan-Hill is based at Nottingham Business School, Nottingham Trent University, Nottingham, UK. Petra Molthan-Hill is leading the HEA Green Academy "Food for Thought" Project for Nottingham Trent University. The aim of the project is to develop curricular and extra-curricular activities embedding sustainability into various disciplines, from Business Studies through Medieval History to Astrophysics, including the Sustainability in Practice Certificate that was shortlisted for the Green Gown Awards 2014. Petra is also the Sustainability Coordinator and a Researcher at Nottingham Business School. Recently, Petra has won the Guardian University Award 2015 in Business Partnership for her Greenhouse Gas Management Project, an innovative project for the core curriculum. Green Academy, Nottingham Trent University, Nottingham, UK Centre for Academic Development and Quality, Nottingham Trent University, Nottingham, UK Nottingham Business School, Nottingham Trent University, Nottingham, UK . 2017. Practical challenges and digital learning: getting the balance right for future-thinking. *On the Horizon* **25**:1, 33-44. [Abstract] [Full Text] [PDF]

3. SavelyevaTamara Tamara Savelyeva tsavelyeva@gmail.com Dr Tamara Savelyeva is an Assistant Professor in the Department of International Education and Lifelong Learning at the Education University of Hong Kong. Dr Savelyeva conducts educational projects and research in the area of sustainable education and international higher education in Eurasia, the Americas and the Asia-Pacific region. Together with the participants of the Rio+20 higher education meeting in Brazil,

she contributed the educational framework for the 2012 Earth Summit. Dr Savelyeva serves on the editorial board of the International Journal for Sustainability in Higher Education and has over 30 publications on the topic of sustainable and international education in different countries. She received her graduate degrees from Cornell University (Natural Resources) and Virginia Tech University (Education). DouglasWilliam William Douglas douglas@ied.edu.hk William Douglas has been at the Education University of Hong Kong since 2006. Originally in the Department of Science and Environmental Studies, he moved to the Centre for Lifelong Research and Development in the Faculty of Education and Human Development in 2010. He is a Project Manager working on projects under the themes of skills for life, minority language education, international education and third-age learning for the center and the UNESCO Chair in TVET and Lifelong Learning. He also works on projects relating to issues of sustainability and environmental awareness in education. Prior to moving to the University, he was in the private sector for over 20 years working as an Environmental Consultant in the UK and Hong Kong. Department of International Education and Lifelong Learning, The Education University of Hong Kong, Tai Po, Hong Kong The Education University of Hong Kong, Tai Po, Hong Kong . 2017. Global consciousness and pillars of sustainable development. *International Journal of Sustainability in Higher Education* **18**:2, 218-241. [Abstract] [Full Text] [PDF]

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