Teacher Education and Education for Sustainable Development: Ending the DESD and Beginning the GAP

By
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October 2014
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1. Introduction
This paper describes the leading edge of education for sustainable development (ESD) in the realm of teacher education at the end of the United Nations Decade of Education for Sustainable Development (DESD). Currently, many sectors of the education community are taking stock of their achievements and lessons learned during the past 10 years. It is a time of celebration of work well done by the teacher education community. It is also a time to reflect on barriers and deficits in an effort to inform future efforts related to ESD. The lessons learned related to promotion, advancement, and implementation of ESD in teacher education during the DESD will serve as a foundation for expanding and “scaling-up” ESD in teacher education institutions during the Global Action Programme (GAP) on ESD in the post-Decade period (UNESCO, 2013a).

2. Background and Context of ESD in Teacher Education
ESD in teacher education at the end of the DESD is situated within the contexts of education, sustainability, and teaching. ESD is evolving and emerging in a world where:
- Teacher education is implemented very unevenly around the world.
- Sustainability is being implemented unevenly around the world.
- The complexity and depth of the problems related to sustainability, education, and teacher education are great.

While prevailing problems related to education, implementing sustainability, and the teaching profession are addressed by ESD, ESD alone cannot resolve these problems. It will take many sectors of society working together to solve contemporary problems and create a more sustainable world. For example, governments that write enlightened policy and finance schools and teacher education are as responsible for implementing ESD as are teacher education institutions. Although difficult, engaging the world’s 70 million teachers in the goal of creating a more sustainable future is an important and worthwhile undertaking.

2.1 Key Change Agents for ESD
Teacher educators and teacher education institutions (TEIs) are considered key change agents in the effort to promote and advance ESD. During the DESD, ESD in teacher education has evolved and progressed. In the early years sensitization and awareness building were the main activities. In the mid-Decade capacity development was dominant. Now, at the end of the Decade, TEIs have accumulated a great deal of experience in reorienting teacher education to address sustainability through efforts to infuse ESD into teacher education, curriculum, pedagogy, evaluation, professional development programs, and certification standards.

2.2 Definition of Teacher Education
Teacher education refers to both initial preparation for teachers (i.e., pre-service) and continuing professional development for practitioners (i.e., in-service). Teacher education is important in that it helps to professionalize the teaching field, improve student learning, and
contribute to the overall success of schools. Teacher education is mainly provided in TEIs some of which are universities. Some countries have teacher-certification requirements and others have teacher-education program requirements. In some countries, governments set qualifications or standards for the initial preparation of teachers and for continuing education. In other countries, universities set these standards for initial teacher preparation. Because no international standards exist for teacher education, it is practiced in a wide variety of ways around the world. Although there are no international standards for ESD in teacher education, striking similarities in teacher education programs suggest they may have been shaped by ESD publications by the United Nations Educational, Scientific and Cultural Organization (UNESCO) and other organizations as well as by academic disciplines adopting ESD.

2.3 Evolution of ESD in Teacher Education during DESD
The leading edge of ESD in teacher education has changed greatly during the DESD, 2005 – 2014. At the beginning of the DESD in 2005, ESD was largely not addressed or was considered an “add-on” to the curriculum. Because of the strong emphasis on basic education and the core disciplines (i.e., reading, writing, mathematics, and science) there was little room in teacher-preparation programs for ESD. However, by the end of the Decade, attitudes, acceptance, and discourse on ESD in teacher education have changed. TEIs exhibit a far greater percentage of institutions having policies related to ESD. (See Figure 1.)

![Faculty of Education Level of Policy Related to ESD in 2005 & 2013](image)

Figure 1.
Data source: UNESCO Chair survey of the International Network of Teacher Education institutions.

Reorienting education to address sustainability is a multi-layered process that involves changes in policy and practices as well as awareness, knowledge, skills, values, and acceptance of the sustainability paradigm. Reorienting is also a reflective process that takes time, intentionality, and effort to accomplish. Reorienting teacher education typically takes years of work within teacher education institutions to create enduring changes.
Box 1. Distinguishing between reorienting teacher education and short-term in-service teacher training

This paper separates the systemic reorienting of teacher education from efforts to use short-term teacher workshops and “training” sessions to change classroom practices in primary and secondary schools. Often, the authors, teacher educators, and officials in ministries of education observe organizations attempting to use teachers as leverage points to change school-related practices. These organizations often promote lesson plans, activity guides, and “curriculums” that address sustainability issues (e.g., conservation of mega-fauna or waste disposal), which can be helpful to teachers. The workshops and trainings often give a specific, yet narrow, perspective of ESD and do not fully address and support an overall reorienting process. The overall process addresses many facets of the formal education system (e.g., pedagogy, assessment, policy, and accreditation). There are hundreds of short-term “teacher training” efforts, some of which are internal to Member States and some of which are international in scope. Such programs do not address the complexity of change in educational systems; they target teachers with short-term professional development in hopes of changing practices within schools. Changing practices within schools, however, is a larger endeavor, which involves three of the five priority action areas of the Global Action Programme on ESD (GAP): supporting policy, whole-institution approaches, and educators.

3. Methodology

The research techniques used to collect information for this paper are varied. The authors reviewed publications from the academic literature and documents from the “grey” literature (e.g., reports from government and international agencies and Web sites). The UNESCO Chair surveyed the members of the International Network of Teacher Education Institutions (INTEI) associated with the UNESCO Chair on Reorienting Teacher Education to Address Sustainability. The institutional members of the INTEI have all self-declared interest in ESD; the majority of INTEI members also undertake ESD related activities. The survey was an expert survey, not a random survey. The survey instrument had 9 sections and 15 items. It took from 20 to 90 minutes to complete. The questionnaire was designed to query teacher education policy and practices. Surveys were sent to 111 TEIs. The Secretariat to the UNESCO Chair received 50 responses from 44 countries with at least one response from each of the five UNESCO regions. The responses came from administrators and teacher educators at TEIs. (See Appendix A for list of respondents.) The Chair also contacted nongovernmental organizations (NGOs) and governing bodies, which are active in ESD and teacher education. This report aggregates and summarizes their responses.

1 The International Network of Teacher Education Institutions (INTEI) associated with the UNESCO Chair on Reorienting Teacher Education to Address Sustainability at York University in Canada is a network of TEIs that are actively involved in ESD. The initial meeting of the INTEI was in 2000 with 35 representatives from 30 countries. Currently, the INTEI has members in more than 70 countries.
4. Achievements of the Teacher Education Institutions leading up to and during the DESD

Generally, the advancement of ESD during the DESD came from individuals and institutions working within their own spheres of influence to bring about change. The change is most often related to programs, policies, and practices. Individuals changed their classroom practices and their daily behaviors to reflect sustainability. Institutions wrote and implemented policies that supported ESD and sustainable practices (e.g., managing the physical plant to conserve water and energy and reduce waste production). The efforts within these three spheres—programs, practices, and policies—have advanced ESD in TEIs around the world. Some of the most remarkable work to advance ESD was carried out in the realm of institutionalizing ESD.

4.1 Institutionalizing ESD

At the outset, many of the efforts to reorient teacher education to address sustainability and innovations related to ESD were carried out on a personal scale—people working within their own spheres of influence to create a small change. The longevity of these changes was based on an individual staying in her/his same position with the same responsibilities. It became evident that for innovations to endure mobility of personnel and changes in administration, ESD would have to be institutionalized. The survey revealed a number of ways to institutionalize ESD.

Mission Statements. Developing a mission statement that contains ESD is a powerful way to reorient teacher education to address sustainability. Cape Breton University in Canada reports that the new “mission statement is now on every course syllabus in our pre-service teacher education programme.” A mission statement serves like “magnetic North” with which all coursework and efforts must align.

New Courses. Another strategy for moving ESD forward is the creation of new courses that focus on ESD. Typically, creating new classes in TEIs is a time-consuming effort that requires several layers of review within the faculty and by an overarching body that controls curricular and academic changes. Such a review process typically requires creation of a syllabus and reading list for the course as well as providing credentials of those who will teach the course to show they have adequate expertise. Some TEIs have gone this route and have created ESD courses. For example, Hanoi National University of Education in Vietnam reported, “a new course on geographical education for sustainable development was created.” Jordan also reported a new course: “At Hashemite University, we created a new ESD course offered to college of education graduates and we are currently thinking to offer to all university students.” Beijing Normal University created a new course “Environmental Education and ESD” for pre-service teachers in 2005. Students continue to register for this class.

New Certificate and Degree Programs. Another strategy for bringing ESD into Faculties of Education is to create a certificate programme. For example: The School of Education at Webster University in the United States offers an emphasis and certificate in Education for Global Sustainability (EFGS) as part of the Master of Arts degree in Education and Innovation.
West Chester University offers a four-course (12-credit) certificate in ESD (Nolet, 2013; McKeown and the USTESD Network, 2013). In 2007, the University of Education in Pakistan designed a Masters’ degree in education, which has a compulsory course on ESD. This Masters’ programme has an area of specialization in Environment and Sustainable Education that comprises three courses: (1) Active Citizenship and Cultural Preservation through ESD, (2) Leadership and Sustainable Development and (3) Peace Education for a Sustainable Future. This Masters’ degree is offered on all 10 campuses of the Punjab Province and has enrolments of about 1,500 students with approximately 700 graduates per year. University of the West Indies has a Masters’ (M.Ed.) in Teacher Education in which ESD is a theme. This Masters’ offers an elective course in “Literature and ESD” as well as “Changing Cultures, Changing Schools” in which ESD is infused (L. Down, personal communication, 10 December 2013). Several new ESD Masters’ programmes are being developed, for example, Cape Breton University in Canada as well as Western Washington University and Webster University in the United States.

**Evaluations.** One effective way to institutionalize any educational practice is to ensure that it appears in evaluations of key actors, including instructors, administrators, and students. Mutare Teachers College of Zimbabwe reports, “The teaching practice assessment form was revised to include assessment of ESD.”

**Teacher Certification Standards.** In countries and provinces/states that have requirements for teacher certification, changing such standards is a powerful way to institutionalize ESD. Pakistan, Scotland (see Box 2), and the state of Washington in the U.S.A. provide national and provincial examples. The National Accreditation Council for Teacher Education (NACTE) of Pakistan reported the “Ministry of Education has included some elements of ESD in the National Professional Standards for teachers in 2009. These Standards are:

1. The teachers know the need of national/global peace and the factors affecting peace and decline in values and ethics.
2. Know the negative impact of prejudice, discrimination, social class, gender, race, and language on the moral development of students and society.
3. Respect for religious/cultural difference.

The State of Washington Professional Educator Standards Board (PESB), which has responsibility for teacher licensure, has incorporated sustainability into the standards for pre-service and in-service levels. The new standard requires that all beginning teachers are able to prepare K–12 students “to be responsible citizens for an environmentally sustainable, globally interconnected, and diverse society” (Program Approval Standard–Knowledge and Skills, 2011; Wheeler, 2013). The goal of the Washington standard is to prepare sustainability-literate teachers. As a result of PESB actions, all TEIs in the state have to reorient their teacher-preparation programs as well as in-service teacher education programs to address sustainability.

**Box 2. Scotland – Professional Standards of Teaching**

In Scotland, Education for Sustainable Development, Global Citizenship, and Outdoor Learning are considered to be different aspects of a wider agenda that is called Learning for Sustainability (LfS).
The General Teaching Council for Scotland (GTC Scotland) was the first such professional, regulatory body for teaching and teachers in the United Kingdom. This body sets the Professional Standards for teachers. The Professional Standards that went into effect in August 2013 include:

The Professional Values core to being a teacher are:
- Embracing locally and globally the educational and social values of sustainability, equality and justice and recognising the rights and responsibilities of future as well as current generations.
- Committing to the principles of democracy and social justice through fair, transparent, inclusive and sustainable policies and practices in relation to: age, disability, gender and gender identity, race, ethnicity, religion and belief and sexual orientation.
- Valuing as well as respecting social, cultural and ecological diversity and promoting the principles and practices of local and global citizenship for all learners.
- Demonstrating a commitment to engaging learners in real world issues to enhance learning experiences and outcomes, and to encourage learning our way to a better future.
- Respecting the rights of all learners as outlined in the United Nations Convention on the Rights of the Child (UNCRC) and their entitlement to be included in decisions regarding their learning experiences and have all aspects of their well-being developed and supported (The General Teaching Council for Scotland, 2012).

Seven universities in Scotland provide Initial Teacher Education (ITE). The courses they teach must be accredited by GTC Scotland in order for graduates of these courses to be eligible for registration as teachers with GTC Scotland. The university teacher-preparation courses will also come up for re-accreditation within the next five years. It is expected that awareness of, and engagement in, LfS will increase over this period as teachers and teacher educators read and become engaged in the revised Professional Standards (M. Watson of Learning for Sustainability Scotland personal communication, 2 December 2013).

Accreditation Standards for Teacher Education Institutions. Accreditation is a powerful tool for implementing change in teacher-education programmes. In many countries, institutions of higher education, including TEIs, undergo periodic reviews by national councils or agencies to maintain their accreditation. Maintaining accreditation allows institutions of higher education (IHEs) to continue to offer professional-education programmes and recruit students to enrol in those programmes. Failure to attain or retain accreditation has consequences for IHEs often related to recognition, funding and student aid as well as student enrolment (Martin and Stella 2007). ESD is beginning to appear in accreditation standards.

NACTE of Pakistan has included “Community Links and Outreach to evidence that the institution links and interacts with its community to mutually support each other to develop and strengthen an equitable society” as one of the seven standards for accreditation of a Teacher Education programme awarding bachelor or higher level degree in teacher education. The Standards were launched in 2009.
The power and motivational effect of including ESD in accreditation standards is evidenced here:

Most of the programs accredited so far have not been able to get a higher level of accreditation status because of their low score on two elements i.e. research and community outreach services. All of these institutions are now trying to improve on these standards to attain a higher level of accreditation. This is a great motivating force for the institutions (Pakistan – NCATE).

Working with accreditation is a high leverage activity. Changes in accreditation standard could affect all TEIs or teacher-preparation programs within a country. It would benefit the progress of ESD in the post-Decade processes to partner with national accreditation bodies to embed ESD into accreditation standard of both TEIs and teacher preparation programs. For ESD to spread beyond the institutions that have pioneered it, it is important for ESD to be embedded into accreditation processes.

4.2 Pedagogy

Teaching and learning techniques of previous generations (e.g., lecture and memorization) are not sufficient to deal with the complexity and uncertainty of a future beset by climate change or to bring about the profound societal changes that are inherent in the search for a more sustainable future. Pedagogy like other areas of education must change to keep pace with the global acceleration of change. “Education for Sustainable Development requires far-reaching changes in the way education is often practised today” (UNESCO, 2012a).

ESD is changing teaching and learning processes in TEIs. ESD is ushering in new pedagogies that “stimulate pupils to ask question, analyze, think critically and make decisions,” that are cooperative rather than competitive, and that are student centred rather than teacher centred. ESD pedagogies move instruction from rote memorization to participatory learning (UNESCO, 2012b, p. 15). ESD pedagogies also move beyond the classroom and into the community (Down, forthcoming; Jiménez and Martin, 2007).

Pedagogies used in TEIs both reflect the pedagogies currently used in schools and those that are on the leading edge. Faculties of Education exist in a dynamic tension between innovating and not getting so far ahead of the status quo of primary and secondary education that their practices seem irrelevant to the local community. Furthermore, no pedagogy is solely associated with teacher-education programs. Pre-service teachers are exposed to a variety of teaching techniques that engage students of different learning modalities (e.g., visual, auditory, and tactile–kinaesthetic). Using a variety of teaching techniques addresses quality.

A quality education implies that the needs of individual learners will be considered and addressed in developing and delivering lessons. By using a variety of teaching techniques, the teacher attends to the diverse needs of the pupils in the class. Not all students learn in the same way. Some prefer to listen, others to read, and still others to participate more actively. Unfortunately, traditional pedagogies mainly serve pupils who are good at listening, reading, memorizing and sitting still; however, not all pupils have these abilities. Yet education is for all (UNESCO, 2012b, p.15).
Using a variety of teaching techniques also addresses equity, which is one of the grand challenges of social sustainability as well as a common theme of teacher education.

**4.3 Quality Education**

In some countries, ESD has recently entered the discourse on quality education, inclusion, equity, and preparation for green jobs. ESD is no longer considered an “add on” but is integral to primary and secondary education reform, which in turn drives change in teacher education. The UNESCO Chair queried the INTEI: “Is ESD’s contribution to a quality education part of the discourse in your TEI or country?” A surprising number of respondents said yes. (See Figure 2.)

![Figure 2. Is ESD's contribution to a quality education part of the discourse of your TEI or country?](data:image/png)

**Figure 2.**
Data source: UNESCO Chair survey of the International Network of Teacher Education institutions.

The longevity of ESD in formal education in the post-Decade period will largely depend on ESD being tied to the theme of quality education. Every Ministry of Education and educational jurisdiction is concerned with providing a quality education in a cost effective way. Linking ESD to quality education is not a new connection. UNESCO (2005a) made the link at the beginning of the DESD. For the goal of “scaling-up” ESD during the post-Decade period and in the GAP, it is imperative that the education community provides evidence of ESD’s contributions to a quality education so that Ministries of Education can write policy to support ESD and can implement programs.

**5. Building the GAP on what TEIs have learned**

While this paper describes the leading edge of ESD, the vast majority of TEIs do not practice ESD. As a result, the teacher education community needs to look back over the Decade to examine the biggest needs of the TEIs as they promoted and advanced ESD. The authors know from the
history of the INTEI, that these challenges are common across continents. The INTEI experiences can be used to inform efforts to expand and scale-up ESD in the GAP.

The UNESCO Chair survey of the INTEI queried, “During the UNDESD what was your institution’s greatest challenge related to ESD?” The challenges to implementing ESD in teacher education were varied. Nevertheless, three themes repeated: lack of financial resources, lack of awareness or support, and lack of human resources. These three are common problems associated with initiating new educational initiatives.

5.1 Financing ESD in TEIs

Insufficient financial resources to implement initiatives is a common problem in initiating and executing many educational initiatives, including in TEIs. Resources in TEIs are finite. As a result, resources have to be reallocated from existing programs to new programs as they emerge. Administrators are often hesitant to reallocate funds. Responses to the UNESCO Chair survey of the INTEI show a lack of funding has retarded progress related to ESD in a number of countries.

India: “There was no appropriate monetary mechanism in place for the implementation of various schemes planned in this field.”

Lesotho: “The instability of the University related to financial challenges has for the past years made the university less receptive to innovative ideas such as ESD; the institutionalization of ESD has therefore not been easy.”

Jordan: “Securing continuous funding” was the greatest challenge related to ESD.

5.2 Advocacy: Building Awareness and Support

At the beginning of the DESD, advocates of ESD found themselves having to explain both sustainable development and ESD both inside and outside of their TEIs.

Network participants discovered that ESD was not a common concept in many faculties, so they developed discussions around ESD for engaging faculty members and staff. Because in many universities top-down initiatives and mandates are not effective in bringing about change, the reorienting effort sometimes hinges on the acceptance of staff and faculty (UNESCO, 2005b, p. 41).

“People who work to promote ESD have many challenges and barriers to overcome” (UNESCO, 2005b, p. 53).

United States: “[I]s simply helping administrators, faculty and students understand what ‘education for sustainable development’ actually means, and why it is relevant” (James Madison University).

New Zealand: “The greatest challenge was senior management attitudes in early years of the Decade that blocked progress on issues. Now there is high interest and support” (University of Canterbury).
5.3 Building Resources and Capacity

It is interesting to note that prior to the advent of the DESD, one of the challenges to reorienting teacher education to address sustainability was “Lack of or inadequately trained professionals who are knowledgeable about ESD” (UNESCO 2005, p. 31). Although an increasing number of teacher educators are conversant in ESD, it appears that some TEIs have not reached a critical mass of knowledgeable individuals. Teacher educators report:

Vietnam: “Could not incorporate ESD in other TE [teacher education] programs. Shortage of qualified people with initiative and some constraints.”

Philippines: “The majority of teachers and students from all over the region did not have any idea what ESD is about. It was a challenge to have faculty and students come to the university for the orientation and subsequent ESD activities. Even the ESD Regional Network cannot meet as regularly as members would like to due to many other activities in their respective schools.”

5.4 Lessons Learned

TEIs that implemented ESD in the late 1990s and early years of the new millennium had to learn their way forward. Textbooks, policy, and how-to manuals did not exist. TEIs leading in ESD engaged in action research and shared their experiences. Many teacher educators started working within their subject area specialties and within their own spheres of influence. As they succeeded in changing coursework and sustainable practices on campus, others began to notice, and the acceptance of ESD grew. In order to capture the wisdom built from experience, the UNESCO Chair survey queried, “During the UNDESD what were your institution’s greatest lessons learned?” TEIs responded with many insightful thoughts that were categorized by theme.

- Reorienting in TEIs takes time and persistence.
- Building faculty expertise is essential.
- Inclusiveness and responsiveness to Indigenous communities and traditional societies are important.
- Support and commitment from senior administrators are vital.
- Support from Ministries of Education makes implementing ESD easier and in some cases possible.
- Building networks is essential—do not work alone.
- Financial constrictions are a reality for programme and network participants.

These lessons learned came through years of hard work and dedication. These lessons can now serve as lighthouses – beacons of light to guide others to safe paths – to other TEIs and teacher educators who embark on ESD advocacy and implementation.

6. Emerging Needs of Teacher Education Institutions

Although TEIs on the leading edge of ESD have pioneered many aspects of reorienting teacher education to address sustainability, new needs emerge as sustainability and ESD evolve.
6.1 Create Materials for Community-based Studies, Assignments, and Assessments
Although UNESCO, other UN agencies, NGOs, and universities published a great number of educational materials and resources, there is a need for new materials that deal with emerging themes of ESD. For example, ESD at institutions of higher education—including TEIs—and schools that use whole-school approaches are interacting far more with the surrounding community (UNESCO, 2012c). Creating field studies and assignments—as well as assessment methods for the aforementioned assignments—that involve the local community requires a new skill set for both teacher educators and pre-service students. Both how-to and good-practices publications are needed to foster this important area of growth of ESD.

6.2 Create Guidelines for ESD Materials Development and Evaluation
An abundance of ESD materials and resources exists on the Internet. The proliferation of materials during the DESD has created opportunities as well as challenges. A tension currently exists between access and quality. On one side, readily accessible lesson plans and activity guides have made incorporating sustainability topics of ESD into the curriculum easier. On the other side, teachers and teacher educators must now expend time and energy to develop skills for judging the quality of readily available ESD materials. ESD has matured to the point where it is time to create guidelines for ESD materials development and evaluation. Such an effort would be beneficial for many people in the ESD community—including teacher educators, pre-service teachers, and in-service teachers as well as educators in the non-formal section of the education community. TEIs, which have expertise in ESD, could lead this project.

6.3 Write Policy
ESD in teacher education has matured as a field. The teacher education community now knows what is successful and effective. It is time for this knowledge to be incorporated into policy. South Africa reports: “Teacher Education policy appears to be somewhat neglected in ESD. There is a need to integrate ESD into national qualifications framework for Teacher Education as this would be the most effective way of getting national traction and consistent engagement with ESD outcomes.”

7. The Way Forward
Member States and key stakeholders of ESD identified teacher education as the top priority in ESD for a post-Decade programme framework (UNESCO, 2013b). Educators became one of the five “priority action areas” for the GAP (UNESCO, 2013a). Consequently, the knowledge base of TEIs that have institutionalized ESD in policy and practices will be essential to support the efforts of other TEIs as Member States move from localized implementation of ESD in teacher education to wide-scale implementation of ESD. During the Decade, ESD in teacher education progressed from raising awareness, to capacity building, and then successful implementation of good ESD practices. These stages will be repeated in the GAP as TEIs new to the ESD effort begin to change programmes, policies, and practices.
A few TEIs, partnering with ministries of education, professional bodies, and school systems, pioneered the efforts described in this paper. Now, other TEIs can build on their successes by adapting and modifying efforts to fit their specific contexts.

References


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Appendix A – Respondents to Questionnaire and Queries

Members of the INTEI who responded to the UNESCO Chair survey:
Argentina – National University of Rosario
Canada – Bishop’s University and Cape Breton University (2 responses)
China – Beijing Normal University
Colombia – University of Santo Tomas
Costa Rica – National University of Costa Rica
Croatia – University of Rijeke
Czech Republic – Charles University in Prague
Estonia – University of Tallinn
Finland – University of Eastern Finland
Greece – University of Crete
Guatemala – University of San Carlos of Guatemala
Hungary – University of Debrecen
India – University of Delhi and Jamia Millia Islamia
Indonesia – Indonesia University of Education
Jamaica – University of the West Indies - Mona
Japan – Miyagi University of Education
Jordan – Queen Rania Teacher Academy
Kosovo – University of Pristina
Latvia – Daugavpils University (3 responses: one of which outlined activities of the Baltic to Black Sea Circle Consortium, one on the Journal of Teacher Education for Sustainability, and one on the University)
Lesotho – National University of Lesotho
Malaysia – Sultan Idris Education University
Maldives – Maldives National University
Mongolia – Mongolian State University of Education
Netherlands – Marnix Academie
New Zealand – University of Canterbury and Unitec Institute of Technology
Pakistan – University of Education, Lahore (2 responses)
Peru – National University of Central Peru
Philippines – Leyte Normal University
Poland – Teachers’ In-service Training Centre in Leszno
Russia – State Pedagogical University of Russia
Scotland, UK – University of Edinburgh
Slovak Republic – Comenius University in Bratislava
South Africa – Rhodes University
Turkey – Necmettin Erbakan University
Uganda – Kaliro National Teachers’ College and Makerere University
United States of America – Western Washington University, University of Texas at Tyler, James Madison University, and Michigan State University
Vietnam – Hanoi National University of Education
Zambia – University of Zambia (2 responses)
Zimbabwe – Mutare Teachers College

NGOs and other organizations responding to the UNESCO Chair survey and other queries by the authors:

Kappa Delta Pi
GLOBE (a worldwide community of students, teachers, scientists, and citizens)
Learning for Sustainability Scotland
National Accreditation Council for Teacher Education of Pakistan (NACTE)
Teacher Education for Equity and Sustainability (TEESNet formerly known as the UK Teacher Education Network for Education for Sustainable Development and Global Citizenship)
The Regional Environmental Center for Central Asia (CAREC)