Cultivating the Globally Sustainable Self Summit Series

ESD Teaching, Training, and Learning:

An Illustrative Case Study of the Need for a Global Research Program

Within the general literature on the education of teachers, there is broad consensus that a triptych of competencies – knowledge, skills, and dispositions – is relevant to all phases of education and certification, from selection, to in-program evaluation, to the development of professional identity and life-long learning. For example, the InTASC standards describe "…what teachers should know and be able to do to ensure every K-12 student reaches the goal of being ready to enter college or the workforce in today's world" (InTASC Model Core Teaching Standards, 2011, p. 3). On the face of it, there is clear overlap at a number of levels between the values of ESD (Education for Sustainable Development, 2013) and extant standards that address teacher preparation and certification, as demonstrated by the Council of Chief State Officers (CCSS), through its Interstate Teacher Assessment and Support Consortium (InTASC) Model Core Teaching Standards (2011) (see also NCATE, 2006). Consider, for example, the following "Critical Dispositions" from the InTASC standards:

Standard #4: Content Knowledge

- 4(o) The teacher realizes that content knowledge is not a fixed body of facts but is complex, culturally situated, and ever evolving. S/he keeps abreast of new ideas and understanding in the field.
- 4(p) The teacher appreciates multiple perspectives within the discipline and facilitates learners' critical analysis of these perspectives.
- 4(q) The teacher recognizes the potential of bias in his/her representation of the discipline and seeks to appropriately address problems of bias.

Standard #5: Application of Content

- 5(q) The teacher is constantly exploring how to use disciplinary knowledge as a lens to address local and global issues.
- 5(r) The teacher values knowledge outside his/her own content area and how such knowledge enhances student learning.

Standard #9: Professional Learning and Ethical Practice

- 9(m) The teacher is committed to deepening understanding of his/her own frames of reference (e.g., culture, gender, language, abilities, ways of knowing), the potential biases in these frames, and their impact on expectations for and relationships with learners and their families.

Standard #10: Leadership and Collaboration

- 10(q) The teacher respects families' beliefs, norms, and expectations and seeks to work collaboratively with learners and families in setting and meeting challenging goals.
- 10(t) The teacher embraces the challenge of continuous improvement and change.

From a thematic perspective, critical dispositions such as these from the InTASC Standards encourage teachers to grapple continuously with the complex, interdisciplinary, and evolving nature of knowledge; to engage regularly in critical thinking; to be aware of one's own beliefs and values; to think about the application of knowledge to larger issues in the world; and to be mindful of the potential impact of one's own biases on others (e.g., Ellis, Lee, & Wiley, 2009; Ros-Voseles & Moss, 2007; Thornton, 2006; Usher, 2003; Welch, Pitts, Tenini, Kuenlen, & Wood, 2010). Such emphases seem highly congruent with the ESD paradigm, which maintains that all humans should "acquire the knowledge, skills, attitudes and values necessary to shape a sustainable future." To do so, ESD promotes competencies like critical thinking, imagining future scenarios and making decisions in a collaborative way…uses a variety of pedagogical techniques that promote participatory learning and higher-order thinking skills…promotes lifelong learning…is based on local needs, perceptions and conditions, but acknowledges that fulfilling local needs often has international effects and consequences…addresses content, taking into account context, global issues and local priorities…[and] is interdisciplinary. No single discipline can claim ESD for itself; all disciplines can contribute to ESD (Education for Sustainable Development, 2013).

Even with such congruence at a general level, differences of emphasis also clearly are evident. For example, the InTASC (2013) standards describe the "common principles and foundations of teaching practice" (p. 3) whereas ESD teaching and learning is based deliberately upon "…values of justice, equity, tolerance, sufficiency and responsibility. It promotes gender equality, social cohesion and poverty reduction and emphasizes care, integrity and honesty…" (UNESCO ESD Conference, Bonn Germany, 2009; see Coffman, Hopkins, & Ali, 2009, p. 147; see also the Earth Charter Initiative, 2013). In short, from the standpoint of teacher competencies, it appears that the InTASC Standards – and the ESD paradigm – share many principles regarding who effective teachers are and should be. At the same time, ESD seeks to reorient not only the content that is delivered by such teachers (e.g., see NAAEE, 2004), but does so for specific means and ends, namely creating "…a more sustainable future in terms of environmental integrity, economic viability and a just society for present and future generations" (Education for Sustainable Development, 2013; see also Center for Green Schools, 2014; Rio+20, 2013).

Despite the clear recognition that knowledge, skills, and dispositions are integral to quality teachers and teaching – and the synergy between various competencies with the basic values and principles of ESD – such standards raise a host of research questions, including but not limited to the following:

- How best do we assemble extant and pursue future research that will address the fundamental questions that are implicit and explicit to teacher education standards (e.g., InTASC) and in a manner that is responsive to the values and goals of ESD?

- How do we address best the complexity that is inherent to the investigation of such processes (e.g., How do dispositions in teachers interact with dispositions in students to impact the type and degree of learning that actually occurs? How do knowledge, dispositions, and performances interact as mediators and moderators of teaching and learning? How do individual differences among students (e.g., attributional style, emotional regulation, life history) influence learning processes and outcomes?

- How might different venues for and approaches to learning (e.g., environmental education, place-based learning, service learning, study abroad) be aligned with the fundamental goals of ESD in order to facilitate learning processes and outcomes?

- How might related calls for reform (e.g., from the internationalization of the curriculum) be productively juxtaposed and/or integrated to enhance teaching and learning?

- How do we translate our research findings into applied form in order to impact policy and practice, both nationally and internationally?

- What theoretical models and applied methods are demonstrably well-suited (e.g., reliable, ecologically valid) both to help investigate and illuminate these complex and interacting processes and outcomes, while also advancing the effectiveness and depth of ESD teaching and learning (e.g., How best do we understand and measure the impact of exposure to ESD-congruent content on both teaching and learning? Are there particular interventions, programs, or approaches that appear especially effective in facilitating learning, growth, and awareness by teachers and students)?

- Through an ESD lens in particular, what are research-based best practices as well as cutting edge approaches not only for evaluating teacher effectiveness pre- and post-training, but helping teachers develop and achieve their full potential over time (e.g., How best do we address measurable differences in teacher effectiveness in order to help all teachers have the best opportunity for development and success)?

- What other research and applied questions regarding ESD teaching and learning should we seek to ask and answer in the years to come?

Various aspects of these and related questions have in fact been addressed in the literature, yielding highly intriguing findings and recommendations (e.g., Almerico et al., 2011; Jung & Rhodes, 2008; Shealy, in press; Welch, Pitts, Tenini, Kuenlen, & Wood, 2010). For example, evidence from a multi-institution study of learning processes and outcomes suggests that the receptivity to, and acquisition of knowledge by learners is dependent not only on the quality of teachers and teaching, but an interaction between the beliefs, values, and life histories of teachers and learners. Thus, in order to account for who learns what and why, and under what

circumstances, it is necessary to take into consideration a host of variables that may be mediating and moderating learning processes and outcomes (Baltensperger et al., 2013).

Transformative Teaching, Training, and Learning:

Toward a Global Program of Research-to-Practice

The above "case study" of the need for ESD research – along with the accompanying research questions – could readily be applied to any global movement that seeks large-scale transformation of individuals, groups, systems, and societies. That is because the *content* (e.g., what information or perspectives are trying to be conveyed in order to influence or change others) and *process* (e.g., how and why content is purveyed as it is) aspects of such research questions are affectively loaded from a values-based perspective. So for example, if we do not appreciate how and why teachers, trainers, and learners differ in their knowledge, dispositions, and performances, we will be ignoring very real processes that mediate the effectiveness and impact of teaching, training, and learning (Kelly et al., in press). Evidence suggests that our lack of attention to such underlying processes (e.g., the fact that human beings may, by dint of their histories and contexts, be relatively disposed for or against the values of our respective social transformation movements) may substantially impact the degree of learning that does and does not occur, much less the concomitant changes that should follow at the level of actions, policies, and practices around the world (Baltensperger et al., 2013).

Thus, if we are to teach teachers and trainers how to convey the principles and practices that are integral to ESD and other allied movements across the "big five" thematic areas – conflict resolution, human rights, sustainability, global education, and religious and cultural understanding – we must first step back and appreciate that these matters are heavily value-laden, and therefore must be approached with care and sophistication at all levels, from the research we conduct to determine what does and does not "work" in the real world; to our attendant capacity for assessing and addressing the complex mediators and moderators of such learning with teachers, trainers, and learners; to the sensitivity and respect with which we understand the extant beliefs and values of the educators, students, parents, and communities whom we wish to engage (e.g., McKeown & Nolet, 2013; Shealy, in press).