

A Critical Analysis of Sustainability Education in Schooling's Bureaucracy: Barriers and Small Openings in Teacher Education

By David Greenwood

Introduction:

Confronting (Un)sustainability Education

In the era of climate change, economic unrest, peak oil, perpetual war, and mass extinctions, teacher educators have to begin asking each other: are our workplaces relevant to the complex realities of a changing planet? Or, do they mainly serve the bureaucracies and the unquestioned assumptions that surround and increasingly determine the culture of schooling?

On planet Earth over the last few decades, the glaciers have been melting faster than education has been changing to meet serious new crises. With few exceptions, the field of teacher education has been nonresponsive to a wide array of globalized sustainability problems impacting local environments everywhere. This is so in part because teacher education, in practice, is less a field of cultural and ecological inquiry than it is a network of bureaucracies that operates under a largely unexamined cultural logic. Epitomized by the super-pervasive No Child Left

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Behind Act, teacher education bureaucracy explicitly and implicitly reflects political and economic ideals that are fundamentally at odds with a vision for social and ecological sustainability at local and global levels. Especially since the *A Nation at Risk* report, the political rationale for the huge sums of money committed to schooling has been to outcompete our economic rivals (and enemies) in the increasingly global economic competition. This underlying nationalistic and militaristic rationale means that the fundamental of purpose of education in the U.S. and elsewhere is not to educate young people to better understand themselves and their relations to others with whom they share the planet, human and other-than-human, but to prepare them for the economic marketplace, an enterprise that has always been grounded in questionable intentions and has always produced questionable results for people and places worldwide. Furthermore, the common practices of teacher education and schooling reproduce and reinforce educational structures, curricula, and pedagogical practices that do more to contribute to the problems of unsustainability than they do to acknowledge and respond to these problems (Gruenewald, 2004; Gruenewald & Manteaw, 2007; Kahn, 2010; Stevenson, 1987).

Still, the cultural politics of education can at times be responsive to the larger cultural politics around the globe, in the nation, and at state and regional levels. In this second decade of the new millennium, around the world and in the U.S., many citizens, educators, as well as government and business leaders and non-government organizations, have begun to pay attention to the complex network of social and ecological problems facing humans and other species in the era of climate change, peak oil, global economic unrest, perpetual war, and mass extinction. One quick search on the Internet (using the keywords environmental, place-based, or sustainability education, for example) can demonstrate that everywhere around the world educators are defining their roles as much more than agents of a state bureaucracy obsessed with competitive achievement, but as cultural or ecological workers dedicated to a saner vision of humanity and the human-nature relationship than that which is promoted by a culture of standardized testing alone.

As Paul Hawken (2007) describes it in his book *Blessed Unrest*, the environmental-social justice-civil rights-labor rights-Indigenous rights movement currently creating change on planet Earth, though unnamed, may be the largest social movement in the history of the world. People everywhere want and are working for change—for more just social relations and for healthier environments for people and the other species now and in the future. Unfortunately, our nation's schools and colleges of teacher education continue to function as if the most pressing problem we face is how to get everyone reading "at grade level" (a ritualized goal that has failed many times in recent decades), or college or workplace "ready" (a target manufactured by business leaders as they exert power over the curriculum). Frequently this narrow focus on prescribed definitions of achievement has led to an increasingly homogenized curriculum that is unresponsive to the diversity of place, culture, and geography, unresponsive to the fast changing social and

ecological environments in which we live, and more responsive to the desires and assumptions of the corporate sector.

But even so, the social and ecological politics of the larger culture have begun to impact educational bureaucracies with a vision of a more sustainable society and an education that is more responsive to the huge challenges facing humanity and the more-than-human world in the 21st Century. In this article I reflect on my last 15 years of experience as an environmental education researcher and teacher education faculty member. Through the personal reflections of narrative inquiry, I observe and interpret the changes I have witnessed and participated in at the state, university, college, and department level, and also on the bureaucratic forces that make more sweeping change unlikely in the short term. Although the changes I discuss have not fundamentally transformed what I consider to be an educational system that reproduces unsustainable cultural patterns, they may offer insight into the process of change and the possibilities for creating counter-spaces within the educational establishment where education for sustainability might take root. As narrative inquiry, the observations and interpretations are my own. Other actors involved in the same contexts that I have attempted to describe and analyze would undoubtedly see things differently.

Teacher Education Bureaucracy: The Context of Faculty Work

Wanted: Scholars or Bureaucrats?

The difficulty begins with finding an academic job in the field of education, which I fortunately accomplished during the semester I completed my dissertation. Though the job market was vastly better 10 to 15 years ago than it is now, the dynamics of job hunting in the field of education are essentially the same: one has to position oneself as marketable within the culture of schooling. To put it bluntly, colleges of education exist because they train teachers and administrators for service in public schools as they are, not as they should be; therefore, for many Ph.D. candidates looking for jobs, the trick is to show a college how you can fit in and contribute to an existing culture, even one that may not recognize sustainability as the serious educational issue that it is. Having a Ph.D. in education or related field is rarely enough to get an interview. A candidate commonly needs to show three years of experience “in the classroom” in order to pass a search committee’s initial screening, which are by design geared to separate schooling’s insiders from its outsiders, critics, or reformers. Further, job descriptions in teacher education usually correlate directly with traditional school content area expertise such as literacy, social studies, science, math, special education, or English language learning. The exception to this norm is the “foundations,” “diversity,” or “multicultural” education specialist, categories that are increasingly rare as the job market tightens and

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narrows. I have never seen a job vacancy for a teacher education faculty position with primary specialization in environmental and sustainability education, though it is possible that such positions exist somewhere. Simply put, environmental and sustainability education have never been central to the culture of teacher education, if they have been part of it at all. Very few faculty members have deep academic or practical experience with the complex interdisciplinary work of sustainability.

What this means is that there is an established set of norms and ways of doing business in teacher education, what Foucault called disciplinary practices and what Bourdieu called *habitus*, that make it exceedingly difficult to deeply examine the practices of the field and the assumptions upon which they are based. People are hired into the field because they demonstrate, more or less, allegiance to schooling's traditions and competence in one of schooling's established specialties areas. As environmental and sustainability education open up new terrain around the purpose and practice of teaching and learning, it is useful to make a distinction between schooling and education. When most people talk about education, they are actually talking about schooling. Since schooling is only one aspect of the much broader field of education, terms such as "educational research," for example, are misleading. In most cases, the proper term should be "school research," or even, "government school research," in each instance a narrower and institutionalized form of education limited by countless taken-for-granted rules and conventions. The fact that education and schooling are confused, even by those who identify as educational researchers or teacher educators, reflects the power of institutions to shape our language practices and confine our thinking to the usual acceptable categories. While it makes good intellectual sense that the broader field of education should inform the narrower subfields of schooling and teaching, the current political case is that the narrower subfield of (government) schooling dominates and distorts the broader fields of educational research, theory, and practice. The result is that the discourses, practices, and habits of schooling limit the possibilities for educational change, even when, in the case of global ecological collapse, widespread social inequity and unrest, and deep economic uncertainty, it seems obvious that changes are needed.

Moreover, although most teacher education faculty members have to demonstrate some ability in research and scholarship to earn their positions and their tenure, most of the research and scholarship in teacher education is entirely school-centric and frankly blind to the larger ecological and cultural upheavals mounting worldwide in the age of climate change, peak oil, police/client states, and multi-nation debt crises. Teacher education is thus narrowed by a school-centric worldview, and is further controlled by a relationship with state government. No other discipline in higher education is as tightly regulated as teacher education/schooling, nor is any other profession subject to such constant scrutiny and critique by the media. While bureaucracy is common to all university departments, many are professional bureaucracies that preserve the relative autonomy and traditional academic freedom of a professional group of disciplinary experts. Departments of educa-

tion/schooling retain some elements of a traditional professional bureaucracy, but their organizational structure is better described by what Skrtic and Ware (1992) called the “machine bureaucracy” of education:

Organizations configure themselves as machine bureaucracies when their work is simple enough to be rationale into a series of separate subtasks, each of which can be done by a separate worker. This type of work is coordinated by standardizing the work processes, which is accomplished through formalization, or the specification of precise rules for doing each subtask in a sequence. (p. 210)

Such a bureaucracy circumscribes the practice and thinking of groups and individuals, develops disciplinary regimes of truth, and constantly surveilles for compliance to the rules and for deficiencies. In this regulatory atmosphere, conforming to national and state mandates under NCLB, or strategizing to meet AYP or to pass an NCATE review, literally become the aims of education. As a result, the teacher education faculty member is constructed more as a bureaucrat than an educator, scholar, intellectual, or agent of change.

This interpretation of faculty work in teacher education does not mean that the field totally controls the minds and bodies of deep thinking and caring professors and instructors. As Skrtic and Ware (1992) pointed out, the field retains some elements of a professional bureaucracy; indeed, it is exactly the professional autonomy in parts of the job that attract people to the work in the first place and helps to retain them despite the overall climate of regulation. The point is that the teacher education workplace is tightly controlled, and this makes deep thinking or substantive change very difficult.

The regulatory environment inspires few, yet many show their allegiance to it in everyday acts of expedience and complicity. Indeed, the most common response to the bureaucracy that governs teacher education among my colleagues is that it is generally despised as anti-intellectual and even anti-educational, but at the same time it is embraced, internalized, and reproduced consciously and unconsciously: we seem to endure and reproduce a Sartrian condition of “no exit.” My own uneasy relationship with the teacher education bureaucracy is nicely captured by Thoreau (1947, p. 609) in his observations of the culture of his time: “The greater part of what my neighbors call good,” Thoreau wrote, “I believe in my soul to be bad, and if I repent of anything, it is my good behavior.” I likewise repent at my own many compromises of conformity to a regulated system that has little to do with what I truly value. The most common acts of complicity that reproduce a culture that one might simultaneously critique include aligning and realigning (*ad nauseum*) program and course content with state and national standards, and tailoring courses with the goal of receiving positive course and program evaluations from students. Course evaluations often amount to little more than student satisfaction surveys, but they can make or break a faculty member’s attempt at job security in the tenure system and “audit culture” (Sparkes, 2007) that further intensifies the culture of regulation.

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In this environment of state control and self-regulation, it is not surprising that environmental and sustainability education are marginal to teacher education discourse if they are part of it at all. However, the professional autonomy available to faculty members does make it possible to create space at the grassroots within the otherwise regulated system to pursue educational aims that are neglected by convention and by design. Over time, grassroots work can begin to change local cultural practices and can coalesce into meaningful changes in policy. Below I discuss several entry points into the work of sustainability education including: course experimentation and revision, cultural changes at the department and college level, and policy changes around teacher education requirements at the state level. Each of these entry points are stories of their own, and taken together, they describe significant changes in my experience of teacher education in my state and university. These changes also are related to larger state and national initiatives around environmental education and to a changing cultural attitude toward environmental issues in the age of climate change and peak oil.

Small Openings

Course Revision and Program Politics

One of the sad facts surrounding the teacher education programs I have taught in for the last fifteen years at two universities is that neither program offers a single education elective at the undergraduate level for preservice teachers. This lack of choice and lack of diversity is an alarming indicator of tightly controlled regulation and it has pedagogical consequences: students often feel that they have to “get through” a sequence of courses over which they have no control, and which is obviously prescribed by some distant bureaucracy. The hidden curriculum here, the political message that we may be unwittingly sending our students, is that education only really matters when it is approved by the state, or worse, that the only kind of education course the university knows about is the kind that is state approved. At my current institution, for example, faculty members are regularly instructed to show on their syllabi how the objectives of their compulsory courses are aligned with the state standards for teacher education. There are simply no courses offered that do not correlate with an official list of state standards and codes. These standards and codes have little to do with sustainability education.

What happens when a faculty member is committed to exploring educational aims—such as helping to create more sustainable relationships on a troubled planet—that are outside the boundaries of—or even contrary to—the state-sanctioned script? This, I imagine, is a question that remains unasked in most teacher education faculties, which are usually kept busy preparing window dressing for the next official review. To teach on the margins or outside of the script is not uncommon—all creative teachers do it regularly. But what is uncommon is explicit conversation within teacher education about the educational limits and political content of the state's prescriptions

and their underlying theoretical and ideological foundations. More uncommon still is collective strategizing among educational academics resulting in strategic political interventions that might interrupt the unquestioned authority of state policy and the normalizing docility of university compliance.

My own experience is that although it is not difficult to design curricula outside the boundaries of what is prescribed, the boundaries significantly limit my own sense of autonomy both as an academic and change agent. In fact, the romantic ideal of academic freedom is incredibly foreign to me as a teacher educator because, in the context of proliferating professional standards, there simply isn't any. What remains, however, for some faculty, is enough professional autonomy to risk the minor insurrection of teaching outside of and contrary to the expectations of state bureaucracies, which now circumscribe most teacher education courses and programs. The risk in such an intervention is that one could at any time be censored for not following the rules closely enough. Taking such risks can be especially hard on untenured junior faculty members who have not yet established a positive rapport with their students. If students feel that they are not getting what they expect from a compulsory teacher education course, if for example they experience it as "too political" or "too theoretical," they can be ruthlessly disapproving of faculty members on course evaluations. And today's teacher education students, having graduated from high school post-NCLB, have themselves been well schooled in a culture of state-regulated standards and testing. If today's teacher candidates are products of an educational system obsessed with test scores and other accountability systems, it is likely that they will take these systems for granted without questioning their validity or recognizing their political content.

The point here is that single course revisions that might focus on sustainability themes are still courses that exist only because they align with policies and objectives that are generally unresponsive to the sustainability challenges facing humanity post-9/11, post-Katrina, post-BP oil spill. Further, a single course in a program, even if it totally disregarded state policies and objectives and built a strong sustainability curriculum from its very foundations, still exists in a program that actively seeks its legitimacy by carefully aligning its content to these very policies and objectives. One might make the argument that one could creatively design a course that meets both state and program expectations as well as the goals of environmental and sustainability education. In some cases, this is easily done, especially in foundations of education courses where there remains some leeway in framing how and why one might learn about the cultural and community contexts of education. However, I would argue that to embrace the policies and objectives of government schooling is often to embrace aims and assumptions about education that stand in opposition to the aims of environmental and sustainability education (Gruenewald, 2004; Gruenewald & Manteaw, 2007; Stevenson, 1987). In other words, adding sustainability content to a course or a program may not be a sufficient intervention to green the teacher education curriculum. The overall impact of a state-regulated

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program, with some green discourse added, might amount to little more than what has been called “greenwashing” in the corporate sector—a green cover-up of core practices that are ecologically negligent and destructive. But of course, making any intervention to frame teacher education in the context of our current local/global dilemmas is vital, and these interventions, no matter how small, can build over time toward deeper changes in course and program content and policy.

My own response to this difficult situation has been to constantly experiment with integrating sustainability content and pedagogy into the required undergraduate course for which I have been responsible, and gradually learning to frame the course through the lens of sustainability. Because this is a “social foundations” course, it has not been difficult to design experiences for students that introduce them to place-based, environmental, and sustainability education, and related educational traditions such as critical pedagogy, through which students begin to analyze the complex socioecological contexts of education and begin to develop ideas about shaping a culturally and ecologically responsive pedagogy. Likewise, my colleagues who teach science, social studies, and integrated fine arts methods, have been committed to including the human relation to the environment as a significant focus for their teaching. However, as I hear from these colleagues, there is much to cover in science methods, for example, besides environmental education, so sustainability themes usually get limited attention to save room for units on, for example, magnets and robots. I make the same compromises for the sake of coverage in my own course, thus muting its ecological content. Although I would like to focus exclusively on environmental and sustainability education, the course I am responsible for aligns with state standards that require attention to many social foundations themes, such as the history of education, school law, racial and cultural diversity, state policies and standards, and so forth.

Besides continual course revision aimed at increasing ecological content, the most effective change I feel I have been able to make has been changing the title of my course. When our faculty revised its secondary education program, I submitted a course title change from “Social Foundations of Education” to “Cultural and Community Contexts of Education.” This change has been important because I no longer feel responsible for introducing preservice students to a watered-down survey of social foundation themes. Instead, I can explore more deeply the issue of cultural context on local and global levels, which is a good conceptual fit for place-based, environmental, and sustainability education. It should be noted that in order to make such a change, I first had to establish credibility as an instructor and faculty member. Had I not been a tenured associate professor, I am not confident that I would have been able to successfully negotiate this change through a cumbersome and gatekeeping bureaucracy. In addition, there are likely those in the social foundations field who would disapprove of abandoning the traditional social foundations title and focus, when social foundations requirements are already under attack by those who question their value to standardized teacher training. My

argument is that exploring the cultural and community contexts of education that currently surround life and learning on planet Earth aligns well with the traditional purposes of social foundations, and that given today's cultural and ecological and community contexts, sustainability education may simply be the most culturally relevant pedagogy. The course title change has led to better conceptual coherence between required program content and sustainability themes, and has helped me focus with more depth on the latter. However, the pressures to cover what the state requires are real and unrelenting. Despite consistently positive course evaluations in this course, as a result of an expensive corporate evaluation of our program in preparation for NCATE review, I have recently been encouraged to attend more to "school law" in my course, an act of self-regulation which I have obediently performed (see Greenwood, Agriss, & Miller, 2009).

Program Mission and Rhetoric

Even as university teacher education programs serve only at the pleasure of the state, and even as these programs are regularly audited for compliance to the rules, there is still room for transformational pedagogy with sustainability content within individual courses. The problem is that when state mandates over-determine program content for students and faculty, sustainability education becomes just another topic to be covered along with everything else that is required. It is possible, however, for a college faculty to collectively name sustainability as a vital educational aim across all of its programs in a way that authoritatively communicates its significance. In fact, this is what happened at my current institution, somewhat ironically, in preparation for an NCATE evaluation.

Although NCATE review is itself part of the teacher education bureaucracy that keeps faculty and students focused on narrow versions of educational success (Greenwood, Agriss, & Miller, 2009), preparing for the ordeal does require a faculty to review or rewrite its conceptual framework. As a member of the Conceptual Framework Committee in my own college of education, I was pleased to find unanimous support for including sustainability as a major conceptual cornerstone along with the more traditional themes of diversity, collaboration, justice, and leadership. Because NCATE examiners expect to see that a college's conceptual framework is integrated across its programs, my own college had many full size color posters printed of its conceptual framework, which still hang on hallway walls as well as in several classrooms. On each of these glass-framed and highly visible posters, and on all college syllabi connected to teacher education, students can clearly see that our college's conceptual framework is concerned with "a sustainable and just future" as well as "local and global responsibilities to communities, environments, and future generations" (see Figure 1).

Explicit commitment to sustainability themes is likely very rare in the conceptual frameworks of colleges education. The presence of these themes in my own college's framework can be attributed to a progressive faculty that cares about the state of

Figure 1



The College of Education contributes to the theory and practice of the broad field of education, and dedicates itself to understanding and respecting learners in diverse cultural contexts. We facilitate engaged learning and ethical leadership in schools and clinical settings. We seek collaboration with diverse constituencies, recognizing our local and global responsibilities to communities, environments, and future generations.

the world and its human and non-human environments. But, in fact, the conceptual framework was written in response to a mandate to produce documents for NCATE review. In other words, the opportunity to rewrite our conceptual framework was created by an outside mandate, which can be seen as a creative act of resistance. In our case, the dean appointed a committee to draft a document and summary statement. The inclusion of sustainability as a prominent theme began as part of

a brainstorming process among a handful of committee members. As a member of this committee, I introduced the idea of sustainability and was delighted, and a bit surprised, that everyone on the committee agreed that it was an important idea. Indeed, it was known that several faculty members already taught sustainability education in our courses and others on the committee and among the faculty held what could be considered a strong environmental ethic in their personal lives. Still, it is my judgment that sustainability would not have been included in our conceptual framework had I not been appointed by our dean and had I not agreed to serve on this committee, and if my department chair, as well as two previous chairs and an associate dean on the committee, had not been consistently supportive of my work in this area. The message here is that it is possible to influence the official discourse of a college simply by serving on the right committee. A college's conceptual framework is usually written by a small group of individuals before it reviewed by the faculty, and this small group has the power name what it most values. Writing a conceptual framework can thus be viewed as a transformative grassroots effort to establish a new sense of purpose for a department or college. In our case, the new presence of sustainability discourse in nearly every hallway and on every syllabus gave those of us committed to teaching for sustainability a powerful sense of legitimacy. Instead of a radical discourse on the margins of conventional education, sustainability was suddenly center stage, and remains so, at least in the rhetoric of the college's official conceptual framework.

Just as responses to the worldwide problem of climate change must include both bottom up and top down approaches, change in teacher education must include both grassroots activism and policy level change. The fact that educating for "a sustainable and just future" as well as "local and global responsibilities to communities, environments, and future generations" is a prominent feature of a college's mission not only legitimates environmental and sustainability education, but sets a moral example of educational leadership. Since our college officially adopted this language, faculty from other universities have communicated with me that they view our conceptual framework as unique in the field, one that should be emulated in other schools and colleges of education.

Paradox and Possibility: Creating State-Regulated Change

While the inclusion of sustainability within a college's conceptual framework can be viewed as a strategic achievement, it is relatively meaningless unless sustainably education is being actively promoted by multiple faculty members as a core educational theme. In our case, crafting a strong mission statement has been part of a larger and slower process of curriculum change that, again ironically, has been catalyzed by changes in state policy around teacher education. Concurrent to the development of our conceptual framework, the State of Washington also revised its standards for teacher education to include for the first time explicit language around sustainability; the State also developed and eventually passed a new specialty

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teaching endorsement in Environmental and Sustainability Education. To say that the State of Washington accomplished these acts is misleading metonymy: what actually happened in both cases is that a group of committed individuals worked within the system effectively enough to create change.

These two significant changes are interesting political victories in themselves that will need to be described more fully elsewhere. Each change is part of a larger movement for educational change that hopefully will lead to more and better environmental and sustainability education in Washington State. The change in teacher education standards is part of renewed focus on knowledge of learners and their development in social contexts. Teacher education programs statewide must now demonstrate that their teacher candidates understand the “contextual and community centered” nature of learning so that “all students are prepared to be responsible citizens for an environmentally sustainable, globally interconnected, and diverse society” (Professional Educator Standards Board, n.d., p. 3). While this teacher education standard is only one among over a dozen new articulations, it is more than mere rhetoric: because state standards are always connected to a regime of compliance, each teacher-certification program in the state must now document exactly how it is meeting the standard. This, at least, is leading to some interesting conversations among faculty across the state, especially as the goal of responsible citizenship for an environmentally sustainable society has proven just as elusive as it is contested worldwide.

The other policy development of note in Washington is a new specialty teaching endorsement in Environmental and Sustainability Education. For the first time ever, colleges of education are able to offer this endorsement, further legitimizing environment and sustainability as vital educational themes within teacher education. State approval for this endorsement was the culmination of many years of work from many groups and individuals, led in part by the Environmental Education Association of Washington (EEAW). For several decades members of EEAW had discussed the possibility of advocating for a teaching endorsement around environmental education, and as recently as five years ago, under the cloud of more standards and more testing, this did not seem politically feasible. However, several important developments helped set the stage for creating this significant change in state policy. First, EEAW obtained a significant grant from the Russell Family Foundation to hire a full-time, paid, executive director. Like many state environmental education organizations, EEAW previously relied on volunteer directors, who usually lack the time and support to build the relationships needed to pursue more systemic changes in schools. Washington State is fortunate that EEAW's director is Abby Ruskey, a very well known and effective leader in environmental education, and the former Executive Director of the North American Association of Environmental Education.

Second, as a result of relationships between EEAW and the Washington State Office of the Superintendent of Public Instruction (OSPI), a half-time program coordinator position was reinstated for environmental education, which is now called the Environmental and Sustainability Education Program. This program is directed

by Gilda Wheeler, formerly of Facing the Future, a successful Seattle-based national program for sustainability education. As EEAW began to organize new statewide programs around environmental education, and as OSPI began a renewed, coordinated approach to sustainability education, there was also a cultural shift in attitudes toward environmental issues. Al Gore's book and movie about climate change, *An Inconvenient Truth* (2006), was a pivotal catalyst. Whereas in 2000 George Bush campaigned as a global warming denier and skeptic, by the end of the decade, even his pro-petrol administration began to concede that climate change is a real issue that needs to be addressed with some kind of action. It was in this context—with effective organizational leadership in place and with changing cultural attitudes toward the environment—that a small group of environmental educators was able to organize, propose, and eventually earn state-sanctioned support for a new Specialty Teaching Endorsement in Environmental and Sustainability Education.

As a member of the committee that wrote the teacher competencies for the new endorsement (see Figure 2), my judgment is that the long bureaucratic process would not have been successful without the skillful leadership of Abby Ruskey and Gilda Wheeler. In addition, the committee also included a highly respected college dean, who previously served on the state standards board responsible for approving new endorsements, as well as another professor whose participation was pivotal in adding sustainability language to the new teaching standards described above. The message here, again, is that it is possible to work within the state-regulated system to create change, but first individuals and groups need to build relationships, demonstrate credibility, and then respond strategically to whatever openings exist.

Conclusion:

Can Government Schools Teach Sustainability?

A huge movement exists on planet Earth for better relationships between people, place, and planet, and more teacher educators are becoming part of this movement. The U.S. Partnership for the Decade of Education for Sustainable Development, the North American Association for Environmental Education and its state and regional affiliates, the Association for the Advancement of Sustainability in Higher Education, as well as the Environmental Education Special Interest Group within the American Association of Educational Research, are each examples of significant organizational work promoting policies and practices in universities and schools that are more responsive to the needs of the human and non-human environment. States such as Washington have begun to require new sustainability standards and offer new teaching endorsements in Environmental and Sustainability Education, and my own college has put sustainability in the center of its conceptual framework. Clearly this represents movement toward more and better environmental and sustainability education in the field of teacher education.

Teacher education is constantly changing, usually in response to political

Figure 2

Teacher Competencies for Washington State's Environmental and Sustainability Education Specialty Endorsement

1.0 Common Core—Environmental and Sustainability Education Content: *Teachers know and critically analyze the historical development, purposes, interdisciplinary nature, defining characteristics, and guiding principles of environmental and sustainability education. As a result, candidates will provide evidence to demonstrate an understanding of:*

- 1.1 The ecological, economic, and social dimensions of sustainability.
- 1.2 The interconnectedness of and significant changes occurring within and among local to global ecological, economic, and social systems.
- 1.3 How culture influences people's interactions with the natural and built (human constructed) environment.
 - 1.3.1 Environmental justice, including the causes of inequitable distribution of resources and impacts over time.
 - 1.3.2 The various ways humans perceive, learn, and live in the environment, including those of the Indigenous peoples of our region.
 - 1.3.3 The role of media and technology on environmental and sustainability issues and actions.
- 1.4 How to evaluate a variety of natural and human systems for sustainability.
 - 1.4.1 The basic principles and tools of various systems thinking methodologies including ecological and organizational models as they apply to environmental and sustainability education.
 - 1.4.2 Interdisciplinary inquiry methods appropriate for investigating environmental and sustainability issues.
 - 1.4.3 How they are connected to the communities in which they live (place-based learning). They employ geographic understanding to describe and analyze ecological, economic, social, and historical relationships.
- 1.5 The need for action on specific environmental and sustainability issues. They identify and facilitate action projects, and evaluate potential outcomes of those action projects.
- 1.6 How environmental and sustainability related policies are developed, implemented and interrelated.
 - 1.6.1 How local, national, and international cooperation is necessary to address environmental and sustainability issues.
- 1.7 Current and emerging career paths in environmental and sustainability fields.

Common Core 2.0—Environmental and Sustainability Education Instructional Methodology: *Teachers use the unique features of environmental and sustainability education in the design and enrichment of curricula and school programs. They teach and assess environmental and sustainability curricula and create stimulating and motivating learning environments. As a result, candidates will provide evidence to demonstrate an ability to:*

- 2.1 Align environmental and sustainability curriculum and instruction with district, state, and national standards.
- 2.2 Integrate environmental and sustainability education with standards-based curricula and school programs.
- 2.3 Develop and implement curricula, including projects, which are relevant to students' lives and others within local and global communities.

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Figure 2 (continued)

- 2.4 Employ effective strategies for environmental and sustainability education inside and outside the classroom.
 - 2.4.1 Teach a variety of inquiry methodologies including place-based learning, field investigation, and action research.
 - 2.4.2 Teach the use of graphs and models to represent data and communicate results of environmental and sustainability investigations.
 - 2.4.3 Teach the basic principles and tools of systems thinking for learning about environmental and sustainability issues.
 - 2.4.4 Use community resources to promote student learning about environmental and sustainability issues.
 - 2.4.5 Facilitate students' acquisition of media literacy to access, analyze, and create messages in a variety of forms.
 - 2.4.6 Create a supportive environment where students are comfortable discussing and debating issues.
 - 2.4.7 Use effective strategies for conducting investigations that are safe and environmentally sound.
 - 2.4.8 Use a variety of formative and summative assessment tools appropriate for environmental and sustainability education.
- 2.5 Facilitate students' effective civic engagement for sustainable communities.

Common Core 3.0—Environmental and Sustainability Education Professional Competencies: *Teachers belong and contribute to the environmental and sustainability education professional community and understand that professional development is a life-long endeavor. As a result, candidates provide evidence that they:*

- 3.1 Identify the benefits and recognize the importance of belonging to a professional community engaged in environmental and sustainability education.
- 3.2 Engage in professional development and/or leadership opportunities related to environmental and sustainability education.
- 3.3 Provide accurate, balanced, and effective environmental and sustainability education instruction.
 - 3.3.1 Critically analyze the theories and current research in environmental and sustainability education.
- 3.4 Are able to articulate a rationale for environmental and sustainability education and reflect upon their role in the ongoing development of the field.

wrangling around accountability and achievement. While such changes have little to do with sustainability issues, the constant state of change can be viewed as an opportunity to make strategic political interventions that begin to put sustainability on the teacher education map. As this article shows, such changes can begin with sustainability-responsive course revisions, and can connect to more significant changes in college and state programs and policies. Teacher educators interested in joining this movement can begin at once in their own work (see Nolet 2009), and start networking and organizing with colleagues as well as the many professional educational organizations committed to a sustainable and just future.

Sustainability Education in Schooling's Bureaucracy

The question, however, remains whether these changes will be enough to counter the dominant agenda of our educational system, which continues to serve a neo-liberal economic agenda (Hirsh, 2007) which is unsustainable at core (Daly, 1996; Hawken, 2007). Teacher educators need to seriously analyze their work, and we should be alarmed if we discover that our collective work fails to significantly address the major sustainability issues of our time. Further, we should not be overly optimistic when we are able to make small adjustments in the curriculum that allow us to begin the difficult work of environmental and sustainability education. Teacher education bureaucracy is tightly controlled, and those at the helm have not demonstrated that they consider sustainability to be a fundamental educational goal. Until it becomes one, and until all of the structures and processes surrounding schooling reflect a deep awareness of the connection between all learning and the future of local and global, social and ecological relationships on planet Earth, schooling is more likely to promote unsustainability than sustainability. Much work remains to be done.

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