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Author: Chet Bowers

**Chapter 3 Language Issues that Should be the Central Focus in Teacher
Education and Curriculum Studies**
(second half of chapter)

**Where to Begin, and How to Involve Students in 21st Century Learning and
Daily Practices:**

Regardless of the specialized area of interest—from becoming a reading specialist, English or social studies teacher, an environmental educator, a math and physics teacher—all teachers will be dependent upon the cultural processes seldom addressed directly in teacher education and graduate educational studies programs. For that matter, academics in other disciplines, with only a few exceptions, perpetuate the same silences. Largely ignored are the different languaging processes that reproduce a culture's taken for granted ways of knowing, values, and understanding of human and nature relationships. There is, in short, no area of the curriculum that does not rely upon the languaging systems of the culture, or that of other cultures. Yet learning about these processes, what they hide, what they distort, when they become sources of empowerment, and, more importantly, when they contribute to cultural changes that may reduce the culture's adverse impact on natural systems, are seldom part of the classroom teacher and professor's professional studies. When I tried to introduce this major shortcoming in the teacher education program when I was on the faculty at the University of Oregon, the faculty told me that I should understand that since everybody uses language to communicate their ideas there was nothing further that needed to be studied. They were thinking of language as a conduit in a sender/receiver process of sending ideas, data, and information to others—which is the view of language reinforced in the use of textbooks, in computer-mediated communication and software programs, in lectures, in power-point presentations, and in most daily conversations. Unfortunately, this view of language is incorrect, and is a major reason why so little attention is given in educational settings to how the deep ecologically problematic cultural assumptions formed in the distant past continue to be passed from generation to

generation. Given the long progressive tradition of educators urging students to construct their own knowledge, which a large segment of the public is now doing in ways that threaten the historical foundations of our democracy, there is even less awareness of the range of language issues that teachers and professors should be addressing beyond those relating to gender, racial, and homophobic discrimination.

In a recent course I taught at the University of Oregon, I avoided introducing students to a survey of readings that address curriculum issues, as I knew they would encounter these surveys in other courses. I also avoided the mistake made in a newly established computers in education course where students were asked to come up with their own reading list. In not knowing the issues relating to the cultural non-neutrality of computer-mediated learning, or the questions that should be asked about the software programs, the students presented 20 minute summaries that reproduced most of the silences that exist in the current educational discourse about the advantages of relying upon computers in the classroom. They were pleased to be in control of their own learning, but were totally unaware of the questions and conceptual frameworks necessary for understanding what they need to bring to the attention of students about the cultural non-neutrality of computers and digital communication in general.

My many years of challenging what I earlier referred to as the culture of denial has led to the conviction that teacher education courses, as well as those I taught in the Honors College and the Center for Environmental Studies, should introduce students to what they do not know—that is, the cultural silences perpetuated in the classrooms and through the media. The course described below thus avoids introducing students to past theorists who wrote about different approaches to educational reforms that were relevant in earlier days—but totally irrelevant in terms addressing today's issues. It also avoids what too many students now expect: to control what they learn and to not be too intellectually challenged. Given the narcissistic mind-set of many of their professors, these expectations seem on the surface to be praiseworthy yet naïve in a world facing environmental and cultural challenges not encountered before. The following is how the students were introduced to an in-depth understanding of the languaging processes that are unavoidable in making pedagogical and curricular decisions. It also presents the core concepts that students in professional education courses should encounter before taking other courses—especially survey courses. The justification for this claim is that the concepts explored in depth in the course lead to recognizing the 20th century legacy of misconceptions and silences that will be encountered in the specialized courses in teacher education and across other disciplines in the university.

EDST 610 Curriculum Reform for a Sustainable Future

Overview of Course:

*In taking Albert Einstein's observation seriously that the same mindset that created the problem cannot be relied upon to fix it, this course will have four main foci. **First**, it will reframe the current approaches to thinking about curriculum reform in ways that take account of the cultural/linguistic patterns of thinking and relationships that contribute to a smaller ecological footprint, and to lifestyle changes that address the growing unemployment due to the further automation of the workplace. Special attention will be given to what teachers need to understand about how the language in the curriculum and in classroom discussions often reproduces the misconceptions of an earlier era when environmental limits were not understood. How to help students recognize when it is important to reframe the meaning of words in ways that are culturally and ecologically informed will also be given attention. **Second**, attention will be given to how curriculum reform can help students recognize the connections between a consumer-dependent lifestyle and the deepening ecological crises. The nature and ecological importance of the local cultural commons (the intergenerational knowledge, skills, and mentoring relationships that are less dependent upon consumerism) will also be considered, as well as the teacher's role in helping students become more aware of the differences in their personal development and the ecological impact as they move between the relationships and activities within the local cultural commons and settings where they are consumers. **Third**, attention will be given to what students need to understand about how computer-mediated learning contributes to a smaller ecological footprint within certain contexts as well as how it undermines the local cultural commons. How to incorporate into the curriculum an understanding of the cultural transforming characteristics of computers will also be addressed. **Fourth**, attention will be given to how to understand the nature of ecological intelligence, and how it differs from the myth of individual intelligence that is reinforced in most classrooms as well as in print-based forms of communication. Understanding these core issues will also be sources of empowerment in other work settings.*

This approach to introducing future teachers to the core issues in their profession avoids treating the language issues in the abstract or only in terms of social justice issues. The main focus was on the wide range of issues that are ignored because of the conduit view of language that is dominant in so many areas of discourse (both written and spoken). The discussion also focused on curricular approaches that would enable their students to recognize how language shapes their own experiences in ways that challenge the long-held

assumption that autonomous thinking individuals use language to send their ideas to others—and that there is such a thing as objective knowledge and facts. These are among the most important misconceptions that classroom teachers must know how to address in ways that take into account ethnic differences as well as the even greater challenge of enabling students to recognize the role that language plays in deepening the ecological crisis.

Bateson's insight that understanding relationships rather than focusing on individual entities was used as the basis for putting the teachers' professional knowledge on an ecological footing. That is, the four major conceptual categories mentioned in the description of the course were presented as ecologies—the ecology of languaging processes, the ecologies of the tension between the cultural commons and a consumer-dependent lifestyle, the ecology of computer-mediated learning and abstract thinking, and the ecology of moving to different levels in exercising ecological intelligence. One of the implications of reframing what is being suggested here as the conceptual areas that should be part of the basis of the teachers' professional knowledge is a characteristic of all cultural and natural ecologies: namely, that relationships within micro and macro ecological systems have a history, are sustained through complex patterns of message exchanges, and that both their history and current patterns of interaction and interdependence have implications for their future prospects. These essential relationships hold for thinking about the ecology of language, of the cultural commons, of the print/computer/Internet patterns of storage and communication, and of the process of exercising ecological intelligence. The discussions on curriculum reform, particularly those that focused on the pedagogical and curricular implications, stressed that helping students to begin to think ecologically requires that they take into account the history of ideas, words, events, technological developments and so forth—as well as how they affect current patterns of interaction and mutual support, and their implications for the future. The implications of these simple and common sense guidelines for thinking, as it was discussed in the class, brings into question the current emphasis (largely driven by testing and most teachers' past socialization) that there are objective facts, that events and ideas can be understood in terms of cause and effect, and that abstract ideas and accounts of events are based on superficial understanding. The following represent the key concepts that were discussed in the course, with a major focus being on how the concepts could be introduced to public school and university students. It was emphasized that the concepts should be reframed as questions to be investigated in terms of the student's own cultural contexts. In addition to the importance of the concepts, question-directed inquiry would encourage students to give close attention to their own cultural patterns they otherwise take for granted.

Ecology of Language Processes:

1. Words have a history.
2. Most words are metaphors that encode the analogs settled upon in earlier times and thus carry forward the insights, misconceptions, and silences of the earlier state of cultural awareness.
3. When born into the metaphorical language of her/his language community, the initial process of thinking is influenced by the historically constituted meanings that others take for granted. That is, acquiring the language of one's community also involves being dependent upon earlier ways of thinking for addressing issues and problems that were unknown in earlier times.
4. The disconnect between past ways of thinking and current ecological realities is the basis of double bind thinking.
5. The taken for granted ways in which people rely upon past ways of thinking, even while thinking that their ideas and values are individually determined, are a dominant characteristic of the curriculum—whether spoken or read.
6. Most curricula and most patterns of verbal communication reinforce a conduit view of language where supposedly objective ideas and data, or an individual's own ideas, are passed through to others.
7. The conduit view of language, which is reinforced in print and thus in computer-mediated cultural storage and communication, hides the basic reality that words have a history as well as how they carry forward earlier culturally specific ways of thinking—including misconceptions, prejudices and silences.
8. The conduit view of languaging processes hides how words, as metaphors, encode earlier and culturally specific analogs that contribute to the linguistic colonization of the present by the past, and to the colonization of other cultures.
9. Words can be given new meanings when the choice of analogs is informed by other cultural ways of knowing and a knowledge of current environmental changes.
10. Encouraging students to learn about the history of words, as well as consider whether the analogs derived from earlier ways of thinking are adequate for understanding and responding to current cultural and environmental issues.

Ecology of the Cultural Commons:

1. The cultural commons are the daily practices that are based on intergenerational knowledge, skills, and patterns of mutual support that rely less on a money economy.
2. The cultural commons exist in every community and the activities range from food preparation and sharing, healing practices and patterns of mutual support, ceremonies, games that depend upon the rules handed down from the past, creative arts and craft skills that rely upon mentoring and a heritage of knowledge, civil liberties, knowing of caring for animals and how to build a dwelling, values and skills in living lightly on the land, and so forth
3. Cultural commons activities bring people together in interdependent relationships, and lead to discovery of personal talents and skills.
4. The cultural commons, that is the intergenerational knowledge that enabled pre-industrial people to survive, grow in population, and to expand their knowledge and patterns of self-governance, began with the first humans wandering the savannas of what we now call Africa.
5. The cultural commons involve a more complex economy of mutual exchange, barter, and volunteerism, and thus provides for alternative community-centered lifestyles in an era of increasing automation driven unemployment and economic uncertainties.
6. Most cultural commons activities have a smaller toxic and carbon impact on natural systems
7. The cultural commons are as diverse as the world's cultures and bioregions.
8. Practices within the cultural commons more often involve local decision making, and a sense of making decisions that strengthen community—rather than decisions based on the pursuit of self-interest, competition, and more profits.
9. Public schools and universities tend to marginalize awareness of the local cultural commons by emphasizing abstract thinking (that is, print-based knowledge) as well as the values and assumptions that underlie an individualistic, progressive, and consumer-oriented society
10. Many aspects of different cultural commons, especially their traditions of narratives and patterns of mutual support, carry forward prejudices and patterns of discrimination—thus the cultural commons should not be romanticized.
11. The world's diversity of cultural commons is being undermined (enclosed) by technological and market forces that are working to integrate them into the consumer culture.

12. Computer driven automation is also turning more aspects of the cultural commons into services and products that require dependence upon the money economy that benefits the already wealthy at the further expense of the poor.
13. The teacher's role as a mediator is to help students articulate the differences in the development of personal talents, ecological footprint, and patterns of mutual support as they move between their cultural commons and market-based experiences.
14. One of the goals of the teacher's mediating role is to help students become more aware of the community's traditions of self-sufficiency and mutual support, and thus to be able to recognize when technologies and market forces threaten to overturn these traditions.
15. In helping students articulate these differences, as well as recognize aspects of the scientific and industrial culture that have made positive contributions to humankind, the teacher is addressing a fundamental problem in our increasingly complex democracy: namely, the ability on the part of the student to acquire the linguistic and conceptual basis for exercising communicative competence in the political process.

Ecology of Print-based Storage and Computer-Mediated Learning:

1. Print-based cultural storage and thinking have radically different affects on consciousness and social relations—which is not understood by most public school teachers and university professors.
2. Print-based cultural storage and thinking have the following characteristics that are, in turn, influenced by differences in cultural ways of knowing:
 - a. Print can only provide a surface understanding of ideas, events, and processes.
 - b. Print is unable to represent the deep cultural and natural ecologies of information that underlies the origin and current influence of ideas, events, and processes that are inadequately represented by the term “context.”
 - c. What is committed to print becomes immediately outdated in a world of cultural and natural ecological systems that involve both continuities and constant change
 - d. Print reinforces abstract thinking and thus the tendency to treat abstract thinking as representing universals that no longer take account of different cultural and natural contexts.
 - e. Printed texts, whether in a book or on a computer screen, reinforce the conduit view of language that, in turn, hides the metaphorical

and thus historical forces that continue to frame the meaning of many words.

- f. One of the aspects of print that has a powerful influence on consciousness and thus on social policies is that print allows people who would otherwise be constrained by the misconceptions of their community to communicate their ideas to a broader and even a future audience.
3. Print too often is interpreted by the reader and even the writer as representing an objective account of reality.
 4. Print reinforces key characteristics of modern western culture: the validity of the individual's perspective and critical analysis (which requires fixed and already dated accounts of different events and interpretations).
 5. Printed accounts marginalize the information acquired through the senses other than sight, which print privileges.
 6. Print has served as a key part of the process of colonization, in terms of maps that designate political boundaries without awareness of cultural differences of the groups within these boundaries, and the written treaties that do not take account of the cultural traditions of the groups constrained by the written treaties.
 7. Literacy has served as justification for colonizing oral cultures that were seen as uncivilized and thus in need of being brought into the modern world largely dominated by abstract thinking and political slogans.
 8. Computer-mediated learning and thinking, as well as reliance upon other Internet-based communication, reinforce the sense of being an autonomous individual and in control of where one wants to go in terms of cyberspace and thus the future.
 9. Unlike oral cultures where elder wisdom and narratives carry forward the moral values and, in many instances the knowledge of how to live within the limits and possibilities of the local bioregion, computer and Internet based thinking marginalizes awareness that everything in the cultural and natural ecologies have a history—with implications for the prospects of an ecologically sustainable future.
 10. One of the dominant influences of computer and Internet mediated thinking and communication upon consciousness is that cultural amnesia is becoming more widespread—which can also be understood as the loss of long-term memory.
 11. Oral patterns of storage, thinking, and communication more often rely upon all the senses, and not just sight, and are more likely to avoid many of the limiting characteristic of print. Other implications include the following:

- a. Relying upon all the senses provides more access to the information being exchanged in the local cultural and natural ecologies.
- b. Oral communication increases awareness of ongoing relationships.
- c. Oral communication also relies more on active memory of the other participants in the relationship.
- d. Oral cultures are more community-centered which can lead to practices of mutual support, as well as discriminatory practice of members who are viewed as deviating from the shared moral norms. Tolerance of differences varies from culture to culture.
- e. Oral cultures vary in terms of their restrictions and allowances for participatory decision making, but they also have been more successful in the past of socializing the new generations to the moral norms governing human/nature relationships. This is now disappearing with the spread of literacy and the accompanying sense of individual autonomy.
- f. Oral cultures are coming under increasing pressure to adopt the print-based form of consciousness, which also includes adopting the western technologies that are alienating the youth of these cultures from the intergenerational traditions that underlie the cultural and natural commons.

Ecological Intelligence:

1. Scientists reduced the ancient Greek concept of “oikos to the study and management of the natural environment, which subsequently became known as “ecology.”
2. As Gregory Bateson points out, all systems, ranging from micro to the macro natural systems and including cultural patterns of information exchange, are ecologies.
3. Just as there are ecologies of weeds, there are cultural ecologies based on misconceptions carried forward in the ecology of language.
4. One of these misconceptions that has led to important developments in the areas of civil liberties, but also to destructive developments in how the West has exploited the environment is the idea that intelligence is an attribute of the individual.
5. Thinking of an individually-centered exercise of intelligence does not take account of how thinking, values, and behaviors are influenced by the metaphorical and thus historically influenced language acquired in becoming a member of the language community.
6. The key to understanding that all relationships within cultural and natural systems are a central feature of all living ecologies is the information that

is in constant circulation within the ecology's subsystems—which may be at level of the genetic/electro-chemical exchanges that sustain biological systems and in the conversations between speakers. The responses that sustain life processes are triggered by what Bateson refers to as the difference which makes a difference in the response of the Other.

7. Human with human and human with nature relationships always, to varying degrees, take account of the differences communicated by the Other—which may be a change in the weather, the gesture or tone of voice of the Other, the off-key performance of other musicians, the use of words that have no relationship with other experienced realities, and so forth.
8. Living in a world of ongoing and evolving relationships, where we are constantly aware and responding to differences (people walking on the wrong side of the street, the body language of the Other, weather too extreme for the season, the absence of animal sounds, and so forth) means that everybody exercises in varying degrees ecological intelligence.
9. The exercise of ecological intelligence is not based on abstract thinking, but on the recognition that people are in varying degrees aware and respond to what is being communicated in their relationships within the cultural and natural ecological systems.
10. Playing a game, driving a car, cooking a meal, working with clay, interacting with students engaged in computer-mediated learning, and so forth, are the everyday examples of exercising ecological intelligence.
11. The misconceptions and silences encoded in the language influence which differences that make a difference will be recognized, and which ignored, and how the differences are interpreted. There is constant communication about the impact of the carbon footprint of Americans on natural systems—including the growing acidification of the world's oceans and the melting of the Arctic ice—yet most Americans, while responding to other differences to which they have learned to observe, continue to purchase vehicles that add to the carbon footprint.
12. The exercise of ecological intelligence should be understood as involving at least three different levels, though in some cultures the deep assumptions make the exercise of stage-three ecological intelligence a common feature of everyday life. What is noteworthy is that many of these cultures did not rely on western technologies that promote abstract thinking, the myth of individual autonomy and technologically driven progress that are now undermining these complex traditions of sustainable thinking and behavior.
13. The taken-for-granted cultural assumptions underlying the individual/consumer-dependent lifestyle promoted by the industrial culture

leads to an individually-centered exercise of ecological intelligence. The information circulating through the relations is selectively perceived, and understood as part of strategy for achieving one's personal goals.

14. Stage-two ecological intelligence involves giving attention to the difference that make a difference—such as being aware of inadequate diets among children, the way automation is displacing the need for workers, the efforts to suppress the ability of the poor and marginalized to vote in an election, and so forth—and taking this information into account in terms of addressing these social justice issues. Stage-two ecological intelligence also has a strong social justice orientation.
15. Stage-three ecological intelligence involves awareness of social justice issues but also a concern with how to conserve as well as to initiate changes that contribute to a sustainable future—for both the cultural and natural systems. Awareness that hyper-consumerism, and the language that provided conceptual direction to the Industrial Revolution that is now in its digital phase of globalization, are ecologically unsustainable would come naturally to a person who exercises stage-three ecological intelligence.
16. People who are more oriented to exercising sustainable ecological intelligence may at times operate at the level of individually-centered ecological intelligence, and even at the social justice level. In some cultures, stage two and three are a taken for granted way of responding to the differences which make a difference in their lived ecologies.
17. A major obstacle to students becoming aware of the different stages of ecological intelligence is the modernizing ideology promoted in teacher education programs that go under different labels but share many of the same deep cultural assumptions of the market liberals who are promoting western assumptions and values as the basis of a new global economic order. These include critical pedagogy, transformative learning, place based education (which does not question the myth of individual intelligence), eco-pedagogy, and computer-mediated learning that reinforces abstract thinking and the idea that students should construct their own knowledge.

Implications that go beyond teacher education and curriculum classes:

Due to the time constraints of the class, as well as the pressure students were under from other classes, the exchanges in the class indicated that some students were not doing all the readings, or were treating them too superficially. Most of the key ideas that brought a depth of understanding of the overall conceptual framework were briefly discussed, with many of the more important

ones being examined in terms of how they lead to a more explicit awareness of how the curriculum, both spoken and written, reinforces the ecologically destructive patterns of thinking and values. There were also extended discussions of how key ideas lead to introducing curriculum changes at different levels in the educational process. A point that was stressed is that the curriculum reforms should enable students to understand that words have a history and encode earlier ways of thinking, that the cultural commons represent alternatives to a consumer-dependent lifestyle, that print-based storage (including Internet-based thinking and communication) undermines the exercise of ecological intelligence.

What is distinctive about making these language issues a central part of the teacher's professional knowledge, and which should be at the center of any university reform effort, is that the explanatory power of the key concepts is not acquired by reading textbooks or downloading explanations from Google. Rather, the concepts help to make explicit how the languaging processes in the curriculum reinforce the old patterns of thinking and limited awareness, or enable students to recognize patterns that before were hidden behind the fog of taken for granted experience. That is, the emphasis was on how the concepts could be used to frame which aspects of the students otherwise taken for granted culture could be made explicit, described, and then examined in terms of its impact on their own lives, the affect on the well-being of the community and natural systems. One of the key ideas in the above list is that reliance upon print-based accounts leads to abstract thinking, and a surface knowledge that does not take account of differences which make a difference within the local environmental and cultural ecologies.

The point was stressed over and over again that after introducing students to a brief introductory explanation that frames what the concept brings to awareness the focus should then shift to doing a deep-ethnography (similar to what Geertz referred to as a "thick description") of the patterns of behavior, thinking, and valuing that collectively constitute the living cultural and natural ecologies that the students are embedded in. The teacher's role is that of a mediator who asks the questions, provides students the conceptual space to give words to what otherwise is part of their unrecognized and unarticulated taken for granted world, and at times reframes the issues in ways that help make explicit other processes and possible consequences.

For example, asking students from different ethnic backgrounds to identify the analogs within their own culture that frame the meaning of words such as "tradition," "education," "sacred," "intelligence," "poverty," and so forth, and to compare these analogs with what most speakers of English take for granted can easily lead to an examination of how print serves to hide the cultural

history of words—of both the dominant and ethnic cultures. After a careful and in-depth examination of the student’s cultural commons, as well as what is shared across cultural groups, the teacher can ask students to do an in-depth ethnography of how the various Internet technologies that rely upon print and other abstract forms of representation affects awareness of the intergenerational communication that carries forward the cultural commons. Asking the question about whether computer-mediated learning and the many social networking systems contribute to undermining the cultural commons leads again back to making explicit aspects of the students own experience as well as to considering patterns they have observed within the larger society—to which they have not given serious thought.

The importance of relying upon the list of key concepts about the languaging processes that characterize all cultural ecologies is that they point to the need for students to learn about the context-specific cultural patterns that affect their communities and the natural systems that are now being degraded. This is radically different from forcing students to acquire the abstract information that is framed by writers who are mostly unaware of the cultural assumptions that influence the interpretations they too often misrepresent as objective facts and information. The challenge is whether the current and future generations of students entering the teaching profession can recognize the misconceptions of their professors who are still under the influence of the conceptual orthodoxies of the late 20th century when there was little awareness of the cultural roots of the ecological crisis, and the ways in which print-based knowledge reproduce a surface knowledge of local contexts—as well as the silences in the thinking of the experts who produced it.

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