

Washington Center

NEWS

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Teaching and Organizing for Access and Excellence

For us to take on the challenges implicit in the title of this issue, we have to pay close attention to three dimensions of our work: 1) who are our students and the students we hope will join us on their educational journeys? 2) what and how are we teaching? That is, given who our students are, and the world we live in today, what ought we to teach? And 3) how do we need to organize within and across institutions so that we can achieve our visions?

This issue begins with a series of articles that address various and rich ways of thinking about who is in our classes: understanding students' religious commitments; appreciating white students' struggles to become anti-racist activists, gaining insight into the challenges faced by lesbian/gay/bisexual/transgender students; and developing more appreciation for students who are learning English as a second or third language.

The next section addresses the "what" of teaching: first, with a set of articles about the teaching of math: the contrast between European mathematics and Indigenous ethics; an alternative to college algebra; and a report on a growing math across the curriculum project. Another way to get at "what" is by creating new coordinated studies programs. A program on the holocaust is featured. The last article in this section describes a strategy for cultivating a sense of place in the curriculum.

The third section of this issue focuses on organizing efforts, the place where many reform efforts stall out. Three articles address ways we can work: within the context of existing systems, by creating new programs, and by organizing across campuses for better working conditions.

The work reflected in this issue was initially presented at the Washington Center conference in February 2001. Related resources are available on our web site www.evergreen.edu/washcenter. We welcome your responses, and we hope to see you at an event sometime next year!

Participating Institutions: Antioch University, Bates Technical College, Bellevue Community College, Bellingham Technical College, Big Bend Community College, Cascadia Community College, Central Washington University, Centralia College, City University, Clark College, Clover Park Technical College, Columbia Basin College, Eastern Washington University, Edmonds Community College, Evergreen Community College, Gonzaga University, Grays Harbor College, Green River Community College, Heritage College, Highline Community College, Lower Columbia College, North Seattle Community College, Northwest Indian College, Olympic College, Pacific Lutheran University, Peninsula College, Pierce College, Renton Technical College, Saint Martin's College, Seattle Central Community College, Seattle Pacific University, Seattle University, Shoreline Community College, Skagit Valley College, South Puget Sound Community College, South Seattle Community College, Spokane Community College, Spokane Falls Community College, Tacoma Community College, The Evergreen State College, University of Puget Sound, University of Washington, Walla Walla Community College, Washington State University, Wenatchee Valley College, Western Washington University, Whatcom Community College, Whitworth College, Yakima Valley Community College

Dear friends and colleagues,

During annual conferences, campus visits and inter-institutional project work, we meet educators whose deep commitment to student success and quality learning has been honed in response to classic questions associated with reform in higher education: Education for whom? Education for what? A purposeful practice, grounded in *all* students' academic achievement, continues to be a goal shared by Washington Center Consortium partners.

A report in the Fall 1988 issue of Washington Center News describes groundbreaking efforts at 18 campuses where many of you currently work. We posted this report on the Washington Center website www.evergreen.edu/washcenter under 'newsletters' so you too can see our collective history. People were experimenting with cluster courses, freshmen interest groups, and programs for underrepresented, developmental, and ESL students. In this same issue, Jean MacGregor's article on "Learning Community Models" was published for the first time, the 'models' emerging from an analysis of existing programs at your campuses.

Like everyone else, the Washington Center builds on the fine work of colleagues. Visiting the resource-rich website of the Washington Center's National Learning Communities Project (<http://learningcommons.evergreen.edu/>), a national initiative co-directed by Barbara Leigh Smith and Jean MacGregor, founders of the Washington Center—reminds us of Consortium members' early contributions to learning community practice and theory, the essential foundation to what is now a leading national educational reform movement.

Clearly, the roots of good practice today run deep and wide. Washington Center's mission affords us the privilege of working with faculty, staff, students and administrators from two and four-year institutions, public and private, mainly throughout Washington State, but increasingly in national and international contexts; we also work with various agencies associated with education from early grades to graduate studies.

Like others before us, we are committed to cross-fertilizing education reform efforts. We welcome the opportunity to work with you and your colleagues on issues related to access, equity and significant student learning. We would love to learn more about your good work within learning communities and elsewhere on campus. This year we intend to develop several new initiatives for Consortium members:

- campus visits and consulting at your request
- day-long workshops organized in conjunction with host campuses
- 'think tank' symposia on education reform issues and current projects

We welcome your ideas, contributions and expertise.

Emily Decker

Gillies Malnarich



Washington Center co-directors, Gillies Malnarich and Emily Decker work on the upcoming Curriculum Planning Retreat

Gillies Malnarich joins the Washington Center

We are pleased to announce that Gillies Malnarich has accepted a permanent position with the Washington Center for Improving the Quality of Undergraduate Education. Gillies has been serving as co-director with Emily Decker for the past eighteen months, and many of you are already aware of the quality of her work.

In its assessment of the candidates, the search committee wrote: "Articulate and passionate, Gillies has been working on issues which are the bread and butter of Washington Center long before joining the Center on an interim basis." For over thirty years, Gillies has been working as an activist educator. In her work across Canada, primarily in British Columbia but in other provinces as well, Gillies has helped to organize educators and community groups on behalf of students, "the sons and daughters of ordinary citizens." She has worked with faculty in community colleges, liberal arts colleges, tribal colleges and research universities; she has a long history of work with popular education, including work with adult educators from Canada, Nicaragua, Sweden and the UK. At Douglas College, a large comprehensive community college in Vancouver, BC, she

created Douglas Development, a teaching/learning center and in-house, peer-based education program for faculty, staff and administrators. Most of her teaching has been in Developmental Studies and interdisciplinary initiatives. She began her academic career as a sociologist, and her research focused on the political economy of female suicide in BC single-industry mining towns.

In addition to her academic work, Gillies co-founded the WomenSpeak Institute, a community-based series of free monthly events for women and men featuring famous and less known women and their stories. She served as co-chair and organizer of Canada's International Literacy Year 2000 conference, and she was a founding member of the Nicaraguan Popular Education and Solar Oven Project Collective, an international training and educational exchange between Douglas College and the Nicaraguan Popular Education Research and Literacy Group, led by Fernando Cardenal. When she isn't working, Gillies and her partner are building an ecologically-sensitive home in the Gulf Islands. We are very pleased to have Gillies with us.

Encountering Religious Commitments in the Classroom

Patricia O'Connell Killen
Pacific Lutheran University

Students and faculty always have brought important personal commitments into the classroom—religious, political, philosophical, and other commitments. Today, those commitments, especially religious commitments, are publicly present in classrooms far more frequently than they were thirty-five years ago. For growing numbers of students, personal religious commitments carry an authority that renders those commitments immune to critical analysis. Appeal to such commitments trumps the authority of the theoretical methods and concepts a course is designed to teach.

Faculty colleagues express surprise, perplexity, and sometimes frustration or annoyance at how religious belief statements appear publicly in their classrooms. This happens in various ways. Students walking out of classrooms when films were being shown because they considered the material “offensive to their faith.” Students asserting in a discussion of gay and lesbian families that the material is not suitable for the sociology course because the bible condemns these abominations. Students expressing outrage that the bible does not carry the same weight of authority as scholarly sources in a communications course. As one professor put it reporting on a discussion, “The comment came from out of nowhere, flustered me completely, made the other students nervous, and shut down the discussion.” Not a satisfying teaching experience for any professor, but one that raises important questions. What leads students to believe such comments are appropriate? What is happening in the learning process when students make such statements? What strategies might

instructors employ to convey respect for students' personal rights to believe what they will, while maintaining the critical rigor and disciplinary procedures of discourse essential to a classroom?

A set of historical and social shifts occurring during the second half of the twentieth century have profoundly shaped our current cultural context so that religious commitments are present more publicly in our classrooms. Relating these shifts to dominant epistemologies, or ways of knowing, and to knowledge of the psychological development of young adults clarifies some of the issues involved when students make religious statements in the classroom. Thinking about the issues and their context pedagogically suggests a set of possible strategies for effectively negotiating religious commitments in the classroom.

Our Historical Moment

Part of the reason religious commitments are more visibly present in classrooms today is the breakdown during the second half of the twentieth century of the “mission of America equation.” This term refers to the way in the early republican period of the 1780s and 1790s that the nation hammered out how the people of the United States could have commonly shared values in a situation of religious pluralism. In the equation, liberty of conscience is the central American value, a value to which the nation was dedicated and which it was required, by divine mandate, to protect or suffer loss of its identity, its soul as a nation. The significance of this value, and the nation's mission to protect it, was available through reason, and so all citizens, whether atheists,

or Jews, or members of the many “sects” of Christians could share and protect this liberty.

Promoting the value of liberty and the practice of toleration it required provided a rationale for the religious pluralism that the new nation faced. It transformed this reality from a pragmatic problem (from roughly 330ce to 1789ce the presumption in the Western world was that no stable social order could exist without a single religion supported by and supporting the state) to a national virtue. Further, in order for the nation to realize its mission, it needed responsible, moral citizens. The various religious communities in the nation, all voluntary associations, provided such citizens through their work of relating their members to God and keeping them focused on salvation.

The various Christian “sects” supported the mission of American equation as well. This equation protected their right to exist, to work for the salvation of souls, to support their members on the journey to God. Hence, they taught the value of the inalienable right of individual conscience. In addition they taught, though they also often violated, the virtue of tolerance as a necessary corollary to the right of individual conscience, referred to as the “precious jewel of liberty.”

Hammered out with confidence in reason and the human capacity characteristic of the Enlightenment, the mission of the American equation involved a religion of the republic, or civil religion, focused on liberty, and a religion of the churches, focused on salvation, that supported each other. The denominations of the magisterial Reformation, known in the 1950s as the

“The comment came from out of nowhere, flustered me completely, made the other students nervous, and shut down the discussion.”

“mainline” denominations, carried this equation into the twentieth century and provided the bridge between shared values in a religiously pluralistic world and individuals’ private religious beliefs and commitments.

For a variety of reasons, by 1965 confidence in the mission of the American equation had eroded, and the capacity of the mainline denominations to serve the bridging function between common social values and individuals’ beliefs was significantly diminished. Hence, for the past thirty-five years, and continuing into the foreseeable future, people in the United States have been working out the question of what central shared values there might be in American life, if any. The discussion includes, significantly, whether religious tolerance is integral to national identity.

Some of the forces that contributed to eroding the bridging function of mainline denominations also led to the severing of religion from ascriptive (socially and culturally inherited) factors—ethnicity, race, region, economic class. When embedded in set of ascriptive factors, religion worked more flexibly. In a larger setting of relationships the young grew up seeing how adults drew on their religious tradition’s teachings to criticize self and society and to fund the imagination to deal with novel challenges. As a result, individuals, even in traditions with apparently quite conservative views, developed a pragmatic and life-grounded way of thinking with their faith.

Severed from a larger web of relationships, religious belief and commitment become the project of solitary individuals. Belief becomes the defining, and for many the only element in religion. “Strong” belief, which means convictions held with intense emotion and never

changing (because if it changed it would not be true) has become the norm for what faith and personal integrity mean for many today. Hence, the religiousness we encounter in classrooms often is intense and deeply committed, at the same time that it is rigid, inflexible. (This is less likely to be the case for recent immigrants and students who come from robust ethnic subcultures.)

“Belief” has become a complex and ambiguous category, one that includes what traditionally would be understood as faith—a trust relation with the divine; knowledge—verifiable fact and supported theory; and, belief—intellectual assent to proposition statements that involve unverifiable claims. Students who do not discriminate among faith, knowledge, and belief often presume that if something is said, they are to “believe” it. Material that in any way challenges the religious beliefs they have brought with them into the classroom must be rejected, and if at all possible, proven wrong, if their belief system’s truth is to be maintained. When students ask, as colleagues have reported and I have experienced, “Do you believe in homosexuality?”, “Do you believe in the bible?”, they are asking complex questions that have little to do with belief as intellectual assent, and everything to do with how one constructs meaning and how the construction of meaning is related to being a person of integrity.

Epistemological Considerations

In the United States today the nature of knowledge is contested. Is it situated and constructed within communities, or is it absolute, objective, and available to individuals through reason? Further, is knowledge available through special revelation from the divine? Today,

many students in our classrooms who identify themselves publicly as Christian, or evangelical Christian, answer the questions with: 1) knowledge is objective; and, 2) it is available through special revelation. These answers conflate belief with knowledge. For students working within this epistemology, encounters with the variety of intellectual disciplines in our classroom frequently threatens their religious commitments. For these students, knowledge, truth, and personal integrity are constructed around two central notions. First, the bible, to be read literally and held as inerrant and infallible, gives them certain access to the mind of God. It is a divine text, exempt from the constraints that space and time put on other texts. Second, readers do not interpret the bible—it says what it says. Further, the text has a single, unitary meaning. Many students are unaware and, when shown, refuse to acknowledge that what they say the bible says IS an interpretation.

It is not a new phenomenon at the cusp of the twenty-first century for students to enter classrooms with absolutes. The work of William Perry, Mary Belenky and her colleagues, Robert Kegan, Sharon Parks and others describes a developmental stage where persons think with dichotomous categories and with absolutes. As persons develop, ideally they construct knowledge in ways more cognizant of its situated nature, negotiate the limited character of all knowledge, and make commitments that they know to be significant even if historically situated and therefore partial. But this development is influenced significantly by the larger social and cultural world within which students find themselves.

Given their world, students often

“While we want to respect diversity in the classroom,
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are equally valuable. . .”

enter our classrooms today with epistemologies that allow for two categories—brute fact and mere opinion. The category of constructed interpretation—that place where meaning is uncovered or constructed—is not yet part of their repertoire. When students enter our classrooms with this cognitive and affective orientation bolstered by divine absolutes, it becomes much more difficult for them to consider other options, namely the constructed and provisional nature of knowledge, and metaphorical or multiple dimensions to truth.

Students' cognitive developmental tasks and teachers' pedagogical tasks are complicated further by the ever more evident contours of one dimension of post-modern life. Many people, including those in suburban, affluent, educated settings, accept the existence of spirits, demons, angels, and other supernatural forces as part of their worlds and appeal to them to explain events in their lives and in the larger social arena.

What the epistemological realities of post-modern, post-industrial, consumerist life in the United States mean is that growing numbers of our students encounter the rules of discourse that govern academic disciplines with few analogues from their experience on which to draw in mastering these rules. Further, many students are less than willing to presume that these rules are useful, valuable, or contribute to knowledge when they do encounter them.

Psychological Considerations

Students, of whatever age, are in a process of cognitive, affective, and social development. They are in a process of forming selves and finding voice. As students engage in this process, they draw on cultural wisdom traditions with which

they are at ease. For large numbers of traditional-aged undergraduates today, especially those of Euro-American heritage or those of African, Asian, or Hispanic descent who are assimilated into the broader consumer culture of the U.S., the language of evangelical Protestantism is the wisdom tradition on which they draw. What to the ears of faculty may sound like ideological fundamentalism often is not. Rather, it is students expressing meaning that they have constructed from the material at their disposal.

Growing numbers of students arrive at evangelical Protestantism through communities of peers who are “Christians.” Students in college and out often have grown up in deeply disturbed and chaotic family systems and social settings. For some of these students, the organization of self, knowledge, and reality around what they understand as “biblical absolutes” has been an important step on their developmental journey. They can, however, become mired in a dualistic view of life, one that entertains only one alternative to life carried out according to biblical absolutes—the dissolution of the self and utter personal and social chaos.

Many students in college and university classrooms have negotiated two or more sets of parents and families from the age of two or three. They have been forced to construct meaning on their own, in a pluralistic setting of values, authorities, and possibilities, at very young ages. Whatever meaning they have constructed has come hard won. It is held fiercely. With what meanings they have personally constructed and personally protected, it becomes understandable that disciplinary knowledge, concepts, and practices may be encountered as deeply threatening and

disturbing. Hence, students turn to religious commitments and beliefs that promise stability and certainty to protect their world views, their psyches, and their sense of personal integrity.

Pedagogical Implications for Classroom Practice

Students who have constructed meaningful worlds, often on their own and against great odds, enter our classrooms daily. As noted, they rarely arrive with an understanding of or skill for conversing civilly in “public” space as academic disciplines conceive this process. We who teach them do well, then, to give considerable care to composing the classroom as a space for civil, disciplinary discourse. Doing so makes us better able to transform the arrival of religious commitments in classroom conversations from silencing moments into gracefully teachable moments. Some suggestions to that end:

1. Be self-reflective about your thought and felt reactions when students use religious language. Faculty also carry religious commitments into the classroom. How do our commitments and the assumptions behind them color our listening to students? [A simple reflective process: Retrieve a time when a student made a religious statement in the classroom. What was your thought reaction? What was your felt reaction? What do your reactions tell you about you and your assumptions—about religion, about students, about learning? What do they suggest by way of questions regarding students' development, your discipline, the learning process?]

2. Spend time at the beginning of a course on what the rules of discourse are in the discipline of the course. Help

students see that the discipline is rooted in a community of discourse. Discuss how the practitioners of your discipline deal with their own personal commitments, including religious commitments.

3. Establish norms for discourse in the classroom and warrant them in terms of the discipline being learned. This avoids the need for faculty members to appeal to “common sense” or “shared values” as warrants for civility, two things on which there is little consensus today. Further, establishing norms for disciplinary discourse provides students a ritualized space of self-protection for their personal commitments that also permits them to try out thinking in a new way without feeling that their security is at risk.

4. Be discerning in listening to

religious language and its context when students speak. Try to understand why they are using such language, what it means in their larger context, where they are developmentally. Consider how they may see the connection between their religious statement and the material or issue at hand. (Depending on the situation, one might ask the student directly what the connection is.)

5. Think about whether it is better to ignore or respond to any particular religious statement made by a student in the classroom. But don't presume that ignoring religious statements will make them go away. A good norm to establish for the classroom is that religious statements will be situated, analyzed, and explored for assumptions and implications in the way any other statements are. Ignoring religious

statements may reinforce students' notions that whatever an individual says he or she believes is accurate, true, trustworthy, and worthy of respect within the context of the course discipline. While we want to respect diversity in the classroom, it is not the case that our disciplines assume that all views of reality are equally valuable or useful in all contexts, most especially this particular one.

6. Structure the classroom and assignments to support students' cognitive development. Support their movement from dualistic views of reality to views that recognize the situated nature of knowledge. Help them to realize that commitments can have integrity and worth without having to be universally applicable or absolute.

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Helping White Students Develop Anti-Racist Identities and Practices

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Antiracist educators generally aim to help white students develop an understanding of racism and race privilege that will motivate them to become active agents for social change. Critical pedagogists, however, have noted that racial awareness often fails to translate into committed antiracist action (Giroux, 1997; McLearen, 1995). Theorists argue that in order for white students to move beyond alienation and disaffection, antiracist education needs to promote “oppositional identities” in which solidarity with people of color becomes a core feature of whites’ sense of self.

Obstacles to white antiracist identity development and maintenance were the focus of a series of communication case studies I began in the early 1990s. In this research, it became clear that, while there are no simple rules for “the right way to do things,” there are ways that educators can help novice antiracists deal with common obstacles that whites encounter as they try to put their new identities into practice.¹

Many perceived obstacles are related to the inherent difficulty of regarding oneself as simultaneously oppressor and anti-oppressor. White antiracists must come to terms with this dual identity not only psychologically (a typical focus of racial awareness training), but also in their everyday interactions. Social identities, imposed by society or chosen by an individual, are constantly constructed and renegotiated as people present themselves to the world and hope that their public identities will be upheld by the performances of others.

Whites’ interactions with people of color are particularly problematic for maintaining emerging antiracist identities.

White students with newly formed racial consciousness have a heightened awareness of the prevalence of white racism, including the possibility that they themselves might inadvertently act in racist ways. They understand why people of color are leery of whites, and they come to expect to be mistrusted. At the same time, novice antiracists want to distinguish themselves from other whites; they want to be trustworthy and to be seen as trustworthy.

Students at this stage of awareness often ask, “What should I do to fight racism?” There are, of course, many practical suggestions one can offer. The experienced activists I studied viewed antiracism as an identity and set of practices with multiple dimensions including: participating in antiracist organizations or campaigns, developing a deep understanding of economic, institutional, and ideological relationships between various forms of oppression, engaging in critical self-reflection, and demonstrating commitment by taking risks and by making life choices consistent with one’s ideals. (For further elaboration of these dimensions see Blewett, 2000.) Educators can develop lists of locally specific “things to do” based on all of these dimensions of identity.

But even when students have a backpack full of projects, they are often inhibited from taking action for fear that they will “make mistakes.” This is not so troubling when the possible mistakes seem to only involve other whites, but it is terribly disconcerting when the possibility involves people of color.

Unfortunately, heightened concerns about how to appropriately enact antiracism and worries about being unintentionally racist often lead whites,

particularly those with little interracial experience, to have awkward interactions with people of color. Such interactions serve to further erode novice antiracists’ confidence in their ability to engage in collective struggles.

Sometimes whites become nervous, hesitant, or even fumbling in their search for “the right way to say things.” Sometimes they try to prove their antiracism by initiating talk about race whenever they meet people of color. Sometimes they try to show that they are “dealing with their racism” by telling frequent stories about the racism perpetuated in their families.

Such behaviors, however, are more likely to be associated with racism than with antiracism. Research on interracial communication shows that people of color tend to be least satisfied with conversations when they perceive whites to be stereotyping them or “trying too hard” to prove they are not racists (Hecht et al., 1993). Assuming that people of color are always interested in talking about racism, is a form of stereotyping. “Trying too hard,” suggests that one is acting falsely. Talking about one’s racism in inappropriate contexts, suggests that one is self-absorbed and insensitive to the pain such stories can cause people of color.

More experienced antiracist whites try not to be overly sensitive to the possibility of distrust or overly concerned about whether or not people of color will see them as antiracists. They are conscious of the importance of showing respect and of being generally open and friendly in interracial interactions. They also recognize the importance of respecting oneself and being “up front” with people of color—the opposite of being overly accommodating

and patronizing. The experienced white antiracists I interviewed hoped that trust would develop naturally as people of color came to know them, found out about their antiracist activities, and perhaps heard positive comments about them from credible third parties. In other words, they set their sights a little lower, hoping to be seen as relatively non-racist people, rather than as explicitly antiracist people. In doing so, these whites effectively reduced the chances of non-affirming or face-threatening interactions with people of color in everyday encounters.

Even when whites feel relatively confident about their interpersonal interactions across racial boundaries, they may still worry about people of color's response to their public antiracist activities. The more engaged white antiracists become, the more likely they are to encounter people of color who disagree with what they are doing. Experienced activists generally recognize a multiplicity of ideologies held by people of color and don't expect that their actions will be supported by everyone. Novice white antiracists, however, are easily thrown by any criticism that comes from a person of color. They worry: "How will I know if I'm doing the right thing?" "Should I participate in multiracial organizations only or should I work primarily with other whites?" "Which people of color should I follow?" "Is it OK to publicly disagree with a person of color on issues of racism and anti-racism?" The lack of easy answers to such questions can inhibit some whites from

initiating or even participating in public antiracist efforts.

White students are often hesitant to discuss their concerns about people of color's perceptions of them, for fear that they will appear more interested in appearances than in action. Yet frank discussion about obstacles to becoming actively antiracist can lead to a creative and supportive exchange of ideas. Such talk is usually easiest among whites. Similar discussion in multiracial groups can be especially rewarding if it helps to foster a sense of mutual understanding and solidarity. Racially mixed discussions may work best when participants already have positive relationships with one another and when the topic is broadened to include obstacles to activism perceived by people of color.

As educators, we can empower students to move from awareness to action by helping them understand and prepare for the many ways their new identities are likely to be challenged by both whites and people of color. Creating a space for examining the social dynamics underlying students' anxieties about enacting antiracism can help students gain the confidence they need to maintain an oppositional identity and actively engage in the struggle for a just society.

¹ This essay addresses the experiences of white anti-racists, but some of the issues discussed may also be relevant to students of color as they try to develop solidarity across cultural boundaries.

"I have this idea that I would really like someone to give me a list of rules of what is right and what is the right way to do things. I think I have a hard time acting without those rules sometimes" - 21 year old white woman in an anti-racist study group.

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Addressing LGBT Issues in Higher Education: A Report on the National Summit on LGBT Issues in Higher Education, NASPA Convention, Seattle, March 17, 2001

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In this report I've compiled ideas from the summit that might be helpful to the Washington Center and those interested in LGBT (lesbian, gay, bisexual and transgender) issues on college campuses. Selected sections are included here, and the full report is available at www.evergreen.edu/washcenter.

Challenges Facing LGBT Students

1. LGBT students are frequently excluded from diversity efforts, even at colleges and universities that support ethnic diversity. Because of this, LGBT students at institutions that openly support other kinds of diversity continue to feel invisible and oppressed. This problem parallels the social climate on a national level: while racial discrimination is illegal, for example, discrimination toward LGBT people is legal in many contexts.

2. Student groups are hard to maintain. This is partly due to students' heavy schedules. The situation is exacerbated, though, by students' fears of anti-gay harassment. Safety is a big issue.

3. Not all LGBT people are able to be out; some students' family situation or community environment make it unsafe for them to be open about their sexual orientation. Other students may still be struggling to understand their orientation. As a result, these students may not be able to participate in LGBT discussions or events, further reinforcing the invisibility of LGBT students.

4. LGBT people often feel pressure to know everything about LGBT issues and experience. Like members of other minority groups, they are expected to serve as "tokens" or spokespeople for the whole LGBT community. As a result, many feel overwhelmed or burn out.

5. There's a tendency to keep "reinventing the wheel." Training and educational efforts often get stalled in the early stages. Later efforts then repeat the work of the initial ones without moving to the next stage. One factor is the failure to create genuine dialogue around LGBT issues; unless open communication and active listening occur, people will not be ready to move toward acceptance and then appreciation for LGBT people. Other factors include the amount of missing or inaccurate information about LGBT people, and the historical biases that prevent LGBT from being visible in campus policies, activities, and curricula.

6. Educational efforts need to distinguish between tolerance of diversity, which is relatively passive, and progressive work to create social justice. Many institutions encourage tolerance and even appreciation of differences; while these are important first steps, however, they mean little unless the campus community creates, supports, and enforces a safe, fair environment for its LGBT members. In other words, campuses need to "walk their talk."

Strategies for Improving the Climate of Institutions

Administration, faculty, and staff can create more visible support for LGBT students in a number of ways.

1. Educate people, both LGBT and straight, of the impact of heterosexual privilege; for many, this privilege remains invisible.

2. Use the campus mission statement as a foundation when discussing LGBT issues. Many colleges include in their mission statement or outcomes abilities a commitment to creating a safe educational environment for all students. These statements provide a solid rationale for educational efforts around LGBT issues, especially if they expressly include sexual orientation in their language.

3. Enlist administrative support: "public controversy" and student protest often are the first steps toward raising administrative awareness of the needs of LGBT students; private corporate sponsorship of LGBT organizations and events is also helpful.

4. Develop Safe-Zone projects and visible safe spaces where LGBT students can go for support and advocacy. Safe-Zone projects enable faculty and staff to express commitment to LGBT students by posting pink triangle stickers on their office doors; this form of quiet but visible acknowledgement of LGBT students sends a clear message to the entire campus community.

5. Publish weekly fact sheets about LGBT people and distribute them as fliers on campus bulletin boards. These facts can help counter stereotypes and misinformation about LGBT people.

6. Develop a campus-wide advisory board to guide policy regarding LGBT issues. This board can be a resource and guide for the creation of long-term goals and fair curriculum practices.

Recommendations for the Washington Center

Based on my participation in the LGBT Summit, I've identified several areas that the Washington Center might address, either at the 2003 conference or as part of a separate event.

1. A workshop or on-line publication about the impact of homophobia and anti-gay sentiment on LGBT students. In-depth information on how being LGBT affects the educational and emotional experiences of students would provide a good foundation for additional work on how to improve campus environments. (A student panel

would be an ideal medium for starting discussion.) Since the experiences of people within the LGBT population are also very diverse, some awareness of how different sexual/gender orientations are affected would provide further clarification. The discussion should also address the different situations of students; for example, how are closeted students affected differently than openly LGBT students? These issues could be applied to faculty and staff as well, depending on the goals of the workshop or publication.

2. A workshop on the mechanisms and effects of institutionalized heterosexism. Since for many people (LGBT and straight alike) the practices of heterosexism go largely unnoticed, the ways in which curricula, course content, institutional policies, and social practices reinforce the marginalization of LGBT people should be addressed. This workshop might also explore the experience of being heterosexual in order to decenter it.

3. A workshop specifically for allies. Such a workshop could discuss some of the

challenges allies might encounter and provide concrete suggestions for dealing with these challenges. It could also provide a safe place where allies could share fears and uncertainties and get advice on specific situations on their campuses.

4. A workshop or publication clarifying the differences between easily confused concepts, such as sex, gender, sexual orientation, gay, transgender, heterosexism, and homophobia. Once concepts had been clearly defined, the informative focus could then expand to explore the implications of the differences.

5. On-line handouts or articles providing concrete information and advice for different members of the academic community. Administrators, faculty, and staff are three groups whose concerns and interests regarding LGBT issues might vary.

6. A directory of contact people and organizations who would be willing to act as advisors for other people attempting to educate around LGBT issues.

References and Resources

The following is a selection of the references and resources listed in "Have Courage, Oppose Homophobia," a packet of materials handed out by Jamie Washington and Vernon Wall. Washington and Wall are themselves available to conduct workshops and provide additional resources.

Workshop leaders

Jamie Washington: washingt@umbc.edu; (410) 455-3108

Vernon A. Wall: vwall@iastate.edu; (515) 294-1023

Web resources

Gay, Lesbian, and Straight Education Network www.GLSEN.org/

National Consortium of Directors of LGBT Resources in Higher Education www.lgbtcampus.org

The Transgender Network www.tgender.net/

University LGBT Programs www.duke.edu/web/jyounger/lgbprogs.html

Publications

Blumfeld, Warren, ed. *Homophobia: How We All Pay the Price*. Beacon Press, 1988.

Evans, Nancy, and Vernon Wall, eds. *Beyond Tolerance: Gays, Lesbians, and Bisexuals on Campus*. American College Personnel Association, 1993.

Toward Acceptance: Sexual Orientation Issues on Campus. American College Personnel Association, 2000.

Geller, T., ed. *Bisexuality: A Reader and Sourcebook*. Hadley, MA: Common Wealth Printing, 1990.

Heron, Ann, ed. *One Teenager in Ten: Writings by Gay and Lesbian Youth*. Alyson Publications, 1983.

Two Teenagers in Twenty: Writings by Lesbian and Gay Youth. Alyson Publications. (updated version of *One Teenager in Ten*).

Kirk, Marshall, and Hunter Madsen. *After the Ball: How America Will Conquer Its Fear and Hatred of Gays in the 90s*.

Sanlo, Ronni L. *Unheard Voices: The Effects of Silence on Lesbian and Gay Educators*. Westport, CN: Greenwood Publishing Group, 1999.

Working with Lesbian, Gay, Bisexual, and Transgender College Students: A Handbook for Faculty and Administrators. Westport, CN: Greenwood Publishing Group, 1998.

Sherill, J., and Craig Hardesty. *The Gay, Lesbian, and Bisexual Students' Guide to Colleges, Universities, and Graduate Schools*. New York University Press, 1994.

What Stays and What Goes? Evaluating the Writing of Non-native Speakers

Robin Jeffers
Bellevue Community College

Faculty members across the curriculum have the task of evaluating the quality of our students' work. For me, the challenge in responding to non-native speakers' writing is identifying the source of the problem I'm seeing: Does it come from lack of skill with the language? A culturally different writing style? A first step in a new discourse community? I have to figure out the answer before I can do the next part of my job—help the student fix the problem.

For even a proficient ESL (English as a Second Language) writer, some grammar mistakes persist. The question we face as evaluators of that writing is how much to weigh those mistakes. In this article I'm assuming that the more we know about the challenges of ESL writing, the better we'll evaluate it and the more helpful we will be to students. To that end, I'll describe how an ESL writer's skill develops, the kinds of grammar mistakes that persist, and the impact of culturally different writing styles.

Proficient ESL writers will find and correct (or simply stop making) mistakes in basic grammar and sentence structure including:

- noun usage—plurals, singulars, not pluralizing non-countable nouns (*sunshine, furniture*)
- simple verb tenses—present, past, future
- suffixes—when to use “important” and when “importance”
- adjective and adverb placement
- imbedded dependent clauses—noun clauses (*Running for your life isn't fun.*) and adjective clauses (*The woman who was running hadn't caught the train.*)
- dependent adverb clause, that most important feature of academic writing, (*If the error persists, then we haven't solved the problem.*)

However, some mistakes persist, and the persistence of these mistakes points

to the different ways languages are structured. Since Asian languages don't have determiners (*a, an, the*) before nouns, Asians probably find the whole concept of a determiner strange. For them, in the beginning it's hard even to see the mistake. Virtually all ESL students will master the basic determiner rule: all singular nouns take a determiner. However, distinguishing between specific and non-specific nouns (*the banana, a banana*) is trickier. Even worse are nouns that can be either countable (pluralized) or non-countable (not-pluralized), depending on meaning. (Reading the works of Shakespeare is hard work). The more convoluted a noun's uses, the more likely it will generate a determiner mistake.

Prepositions, often illogically idiomatic, also resist correction. A Korean student taking her second quarter of college composition wrote this in an assessment: “I spent much time for my research paper.” Who's to say that using *on* instead of *for* makes more sense? The preposition an ESL student chooses often has more logic than the one native speakers use, and one of the great joys of working with ESL writers is the opportunity to look anew at these taken-for-granted yet highly idiosyncratic English idioms.

Finally, inappropriate transition words, particularly ones that indicate logical relationships (*however, in addition, therefore, etc.*) sometimes show up in otherwise strong writing. It may be that cultural differences in writing styles account for this. One prominent feature of those differences is the degree to which the author does or does not lay out the logical relationships between ideas. Most Asian and some African languages use an inferential writing style. In those countries if writers explicitly lay out the connections between ideas, they insult their readers. Their job as authors is to imply connections

so successfully that the reader gets the point without them stating it. If, instead, the authors make the connections via transitions, their writing may be judged unsophisticated, boring, and very possibly rude.

Transition usage, then, gets into the territory of violating students' cultural training. The hurdles students face aren't just ones of vocabulary. We might envision the learning curve as something like this:

- discover the notion of explicit transitions
- discover that that they are required;
- get over the sense of great impropriety that using transitions involves
- finally, figure out the logic behind the transition words in order to select the appropriate one.

What appears to be a relatively simple error in word choice—the wrong transition word—is actually not so simple. Writing problems arising from cultural differences loom much larger than most of us expect. Respecting the complexity of learning to write in English is a critical way that faculty can support learners.

Finally, one additional thought: In a new writing situation everyone's style falls apart. When we enter a new discourse community (in the students' case, this could be a first class in an unfamiliar discipline), we don't know its vocabulary, its shorthand ways of communicating, its writing style. That initial lack of skill gets amplified for non-native speakers. Grammar, usage, and sentence structure mistakes re-emerge as the students concentrate on learning the ideas, the ways of knowing that the community uses.

In an ideal world, all faculty would have some knowledge about how non-native speakers develop proficiency in English. Until that time, faculty can be attentive to patterns of errors in students' work, and be sensible in deciding how much to weigh those mistakes.

Temples of Science Replace Temples of Religion: Impact of Colonization on the Overall View and Study of History and Mathematics

Rahael Jalan
The Institute of Indigenous Government

The eagle soars high, gets an overall view of the earth, and sees everything in its hunting ground. The eagle also teaches its young how to survive by soaring high. Humans aptly call this perspective a “bird’s eye view”, a valuable vantage point for understanding a situation.

The history of mathematics enables us to have a bird’s eye view not only of the logical steps that might be taken to understand a problem and look for a solution but also of what has motivated humans in the search for knowledge of the world. Thinking globally enables us to appreciate the thought processes that led to certain discoveries and humankind’s ability to fathom and reveal mysteries of the earth and universe.

In my resolve to attain a global perspective in the study of mathematics, I will review some of the historic contributions to the overall development of mathematics. In recounting my brief history, I will focus on some of the values, world-views and religious practices of those people who used mathematics to articulate their relation to Nature and the cosmos. By noting these underlying values, I hope to remind us of an *Indigenous ethics* based on a respect and reverence for Nature that is often missing in Western applications of mathematics and science. In our eagerness and haste to embrace new technologies at the cusp of the new millennium, it is important to understand that rapid developments in information technologies

are rooted in non-Western mathematical calculations, traditions, and philosophies.

The ancient Greeks were the first of the great *European* mathematicians. They flourished up to the third century AD and then Greek mathematics lay dormant for about a thousand years. During this period, mathematics flourished in the Indian sub-continent. One of the most widely relevant and significant events was the invention of “zero” and the decimal system of writing numbers. Great Indian mathematicians such as Aryabhata and Brahmagupta also made important advances in algebra and trigonometry.

Arabian scholars, avid students of Indian mathematics, translated Indian mathematical manuscripts into Arabic. Through such intellectual cross-fertilization between India and Arabia, the Arabs became the custodians of this ancient knowledge.

In turn, Indian mathematics and Arabic contributions eventually migrated into Italy where the mathematician Leonardo of Pisa passed on this knowledge to Europe in the 12th century. Our current number system, sometimes called the Hindu-Arabic notation of numbers, acknowledges the non-Western lineage of mathematics’ founding principles. These mathematical ideas, now known in Europe, created a keen interest in the study of mathematics, giving birth to a kind of Renaissance in the mathematical understanding of the world and universe.

While mathematical advances and speculations traveled across Europe, the

Maya civilization independently invented their own number system in the Americas. Maya priests tracked the positions of the earth, sun, stars and planets, and used this knowledge to create an accurate calendar and to predict weather patterns.

Although separated by a geographical divide, both Indian and Mayan civilizations used their knowledge of mathematics for constructing temples and sacrificial altars, studying the stars, and measuring time, thereby laying the foundations for their own complex systems of architecture and astronomy. The logic of mathematics, intrinsic to both cultures, also played a critical role in the practice of religious ceremonies. In addition to similar uses in mathematical calculations, it is remarkable that Maya temples and Hindu temples are profoundly similar in their architecture.

Tragically, much Mayan knowledge has been lost to the world. Spanish Conquistadors burned Maya books or codices, assuming they contained pagan “superstitions” and religious beliefs contrary to Christianity. Here as elsewhere throughout history, the anti-intellectualism and Euro-centric prejudices inherent in Christianity led to a program of cultural genocide. Hence the temples and dogma of the Christian religion ruled, supplanting or, more accurately, *eradicating* the contributions made by the Maya civilization.

Today, however, scholars are piecing together information about the great

“The more we learn from the past, the more meaningful our contribution will be to the wealth of knowledge already in place.”

Maya homeland that flourished in the Americas and spanned the countries of Mexico, Guatemala, Belize, Honduras, and El Salvador. We are now beginning to acknowledge the contributions of the inhabitants of this “New World” to science, mathematics, astronomy, architecture and medicine.

When the ideals of a scientific and mathematical understanding of the world began to prevail over the former pre-eminence of religious dogma, mathematics and science soon led to the Industrial Revolution. In European society, the Industrial Revolution gave birth to a host of adverse social outcomes, such as widespread poverty, deprivation and social inequity; its ultimate negative impact was to throw the social order, Nature, and the environment out of balance. Europe, in its avarice and greed, looked towards its “new discoveries” and colonies to supply an ever-increasing demand for more natural resources.

To aid Europe in the relentless acquisition of new resources, science and its numerous inventions provided tools for colonizing non-European territories. With its focus on conquest, plunder and subjugation rather than on *fair trade*, Europe soon boasted an impressive array of weapons of destruction. During this period of colonization, Europe’s conception of mathematics and science as tools for domination blinded Europeans to the spiritual connection that Indigenous people had with Mother Earth.

Unlike Europe’s instrumental use of math and science to more efficiently exploit the abundant resources of Nature, Indigenous people harvested only what they needed to satisfy their physical needs. This non-exploitative view allowed Indigenous

people the time to meditate on the metaphysical, spiritual dimensions of Nature. Of course, Indigenous peoples *did* employ a more practical application of mathematics, but such use was often within the realm of religious ceremonies, mathematics a means to understand the cosmos on a more spiritual plane.

By contrast, modern Western science, with its idolization of facts and figures, often rejects the existence of the spirit. Humans are intelligent, rational beings. Yet rational thinking cannot reconcile the physical and the spiritual, body and soul. Once the spiritual dimension is absent from science’s account of the world, humanity becomes spiritually impoverished, with the potential of the intellect and powers of reason reduced to satisfying physical needs and pleasures.

As a society we fall prey to the pursuits that fill us with inertia. We accept what is around us as long as our immediate needs are met. The fruits of our knowledge slowly enslave us. Modern civilization has lost its intellectual freedom. Our system of education is geared to accept the dogma of science. Temples of Science rule. We are tied down by political, legal and educational systems that are overpowering rather than empowering. Where should change begin?

We must start with education based on *inquiry*. Scientific understanding needs to be validated based on the principle of “true scientific inquiry”. Let us accept nothing without questioning its validity and long-term viability, and reject only after we have understood. In traditional “Indian” councils it was obligatory to reflect upon the possible effects decisions would have, not only to the current generation, but also to the seventh generation.

Let us go back and seek the wisdom of the people whose guiding principles were tested, confirmed and shaped by experience that evolved over countless generations. This knowledge while available is not disseminated widely nor is it taught in the classroom. Important contributions to mathematics by the Hindus, the Arabs, the Maya and other Asians have been marginalized and devalued against the Western yardstick of technical innovation. The wisdom of the ancients of this land has also been rejected, manuscripts destroyed (the Maya mathematical manuscripts) or credibility questioned (the authenticity of the speech of the great Chief Seattle).

If we are to create a new solidarity to guide scientific development, then we must regain the earlier spiritual connection with all creation and strengthen our bond with Mother Earth. We must regain our circular vision and include all in the great Circle of Life.

Education must recognize the right of each student to think within his or her own identity and culture. To copy another in thinking is to dilute the purity of one’s own powerful spirit and thought. Compared to universal, physical and basic needs which material forms satisfy, the purest and most noble thoughts of each one of us are unique, the basis for a masterpiece of art, mathematical insight, literature or music. We need to stimulate intellectual, moral, social and spiritual growth in us all if we are to encourage diversity and a healthy questioning attitude, rather than conformity and a mere acceptance of established norms.

To discover that which is true and lasting, we must question all; no one should be too big or too small for this impartial scrutiny. Cross-cultural education and an

“ We live at a time when contributions from any corner of the earth can be accessed and utilized. Let us make good use of this invaluable opportunity.”

understanding of the diversity of coexisting cultures promotes tolerance and adds to our wealth of knowledge.

We benefit from the cumulative effort of all our ancestors. Every culture and civilization has made its own contributions to today's society. Consider the history of humankind as an infinite journey...or in mathematical terms “an infinite continuum”. During our “finite” time on Earth, as part of this infinite journey, each of us has the responsibility to contribute as best we can to our collective efforts to expand human knowledge. The more we learn from the past, the more meaningful our contribution will be to the wealth of knowledge already

in place. The trend towards globalization enhances our ability to learn from each other. We live at a time when contributions from any corner of the earth can be accessed and utilized. Let us make good use of this invaluable opportunity.

By presenting mathematics with a historic background and a heightened awareness of Indigenous knowledge and contributions, students feel a sense of inclusion and ownership. Thus we create a credible argument that in our current world, which is increasingly technological, every one of us can make a contribution.

I believe the timeless traditions and knowledge of the people of this land will

endure as an integral part of future consciousness. If evolution is indeed a process of selection of the best conditions for survival, then the spiritually strong must survive. Not only would it be wise but also now it is necessary to integrate the traditions and knowledge of the ancients into our system of education. We would then be able to truly accept, reject or select the best possible, harmonized and integrated solutions for the betterment of humanity. Technological and material knowledge and traditional, spiritual values can be reconciled to ensure a more humane, compassionate and nurturing society—the society of a new and enlightened millennium.

Institute of Indigenous Government

Rahael Jalan is Dean of Academic Affairs at The Institute of Indigenous Government (IIG), Canada's first autonomous Indigenous-controlled public post-secondary institution. Established in 1991 by the Union of British Columbia Indian Chiefs, the IIG was designated a provincial Institute by the Government of British Columbia under the *College and Institute Act* by Order-in-Council in May 1995. The Institute is the first in Canada to have independent power to grant a one-year Certificate and a two-year Associate of Arts degree. Students who complete their two-year degree can transfer to other post-secondary institutions and complete their four-year degrees.

The IIG is guided by the advice of our resident Elders. By having Elders with a strong sense and knowledge of First Nations spirituality, traditions and culture at the Institute, both students and staff can learn how modern education and traditional learning from Elders can be used in a responsible manner to address contemporary concerns.

Math Across the Curriculum: Report on Work in Progress

Rebecca Hartzler
Edmonds Community College

In the early 90s, Edmonds Community College adopted “Quantitative Skills” as one of four college-wide abilities for which students should have proficiency after graduating. After researching the ways in which various colleges and universities around the county were integrating quantitative skills within their curricula and measuring the proficiency of their students, Rebecca Hartzler (physics instructor) and Deann Leoni (mathematics instructor) began a Mathematics Across the Curriculum (MAC) project at Edmonds Community College. The project has now expanded from Edmonds Community College to involve over fifty faculty from high schools and two- and four- year colleges throughout Washington state.

The purpose of MAC is to support faculty as they develop curricula that integrates mathematics and/or quantitative reasoning into existing courses. Some faculty are simply making the mathematical dimensions of their disciplines more explicit for their students, where others are creating entirely new courses or learning communities that integrate quantitative skills throughout. Four-day summer institutes are the center of the project where faculty are given time and resources to create classroom-ready materials. These resources include an on-site library and computer lab with web access; consultants from other MAC projects around the country; workshops on topics such as statistics, graphing using Excel, and ethno-mathematics; and examples of assignments and projects from experienced MAC participants. Faculty from disciplines other than mathematics are encouraged to work with a “math mentor” and/or a team of faculty to create and implement their projects.

To date, participants in the MAC project represent a variety of disciplines including anthropology, art, art history, biology, English, health, history, physics, political science, social services, sociology, Spanish and theater.

Political science instructor Robin Datta uses lessons on ratios and percentages in his American government class to help students learn to analyze statistics. “The idea is to empower students,” said Datta. “It’s to give them tools they can use, mathematics and critical thinking skills, so they can understand how something affects them as a consumer and citizen more clearly.”

Tom Murphy incorporates ethno-mathematics, a field of study that focuses on the interaction between culture and mathematics, in his anthropology classes. In one class for example, his students count and solve problems using Mayan math. “It helps students think about the development of numerical systems and the logic behind them. It increases their basic understanding of numerals and how we as humans manipulate them,” he said.

Art instructor Melissa Newell thought her design students would benefit from thinking a bit about geometry before they started projects. Deann Leoni visited Newell’s class and talked about ideas such as symmetry and tessellation—how shapes such as hexagons, equilateral triangles and squares can repeat in an area without creating gaps or overlaps. Newell said the talk paid off when the students were later asked to tackle a large abstract art project: “I wanted students to work with more complexity and they were much more successful than students I’ve had in classes previously,” she said. “They were able to break things down into smaller units to solve larger more complicated projects that often

overwhelm them.”

Students in math classes may benefit from the program too. Jagwiga Weyant, a mathematics instructor, attended the institute to find more examples of math used in other subjects so she could provide real-life problems for her classes to solve. She and Leoni developed a two-quarter Intermediate Algebra course that uses everyday examples and takes time to teach math study skills. It’s a new approach to teaching that aims to increase student’s comfort with and success in learning algebra.

College instructors from around Washington state who are interested in learning more about or participating in the MAC project can check out the website at <http://mac.edcc.edu> or contact the coordinators, Deann Leoni at 425-640-1184 or dleoni@edcc.edu; or Rebecca Hartzler, at 425-640-1062 or rhartzle@edcc.edu.

The Mathematics Across the Curriculum project is funded by the National Science Foundation (DUE Id: 0088149), the Edmonds Community College Foundation, The Puget Sound Center for Teaching and Learning, the Edmonds School District, and the State Board for Community and Technical Colleges.



Summer institute participants from Eastern Washington University work in the computer lab.

An Alternative to College Algebra: Visual Mathematics / Environmental Modeling for the Twenty-First Century

Robert S. Cole
The Evergreen State College

Over the past seven years I have demonstrated that it is highly desirable to teach concepts of mathematical modeling to students at the college algebra level, often as a substitute for the traditional algebra content. I've done this with first-year students enrolled in interdisciplinary programs at Evergreen. What makes it possible is mathematical modeling software like *Stella*. Students use this software to point-click-and-drag components of visual diagrams of things that flow between points and accumulate in various locations. This includes populations, natural resources, chemical compounds, money, information – indeed, anything that flows and accumulates. *Stella* enables students to focus their attention on how parts of a system interact (by building visual diagrams), while the software builds the mathematical equations associated with the flow diagrams. Most students emerge from this experience with the basic ideas of systems thinking. When the topics modeled include ecology, biogeochemical cycles, or environmental health, students often see strong implications for their own lives, and want to take the modeling process further than the assigned tasks.

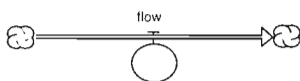
Here's a brief outline of what's involved. The fundamental ideas concern **amounts** (something that can accumulate in a given location), and a **flow** between the various points of accumulation.

The significant thing about this characterization is that students bring an intuitive grasp of inflows, outflows and amounts with them — they have direct experience with water flowing into and out of a kitchen sink, or a bathtub. We capitalize on this intuitive grasp to develop a more sophisticated understanding of how dynamic systems change in time.

Most students have a loose grasp of the fact that the future amount of anything in a bucket equals the present amount plus the inflows minus the outflows:

$$\text{Future Amounts} = \text{Previous Amounts} + \text{Sum of Inflows} - \text{Sum of Outflows}$$

In *Stella* **flows** of things (Amount per unit time) are represented



by the symbol:

Amounts (called **stocks**) are represented by the symbol:



Stella also uses **converters** to manipulate numbers. **Connectors** are wire-like elements that carry *information* flow between these components. These four components, comprise the fundamental building blocks from which all models can be constructed.



For brevity, I illustrate only one pattern of dynamical system behavior, that of overshoot and collapse. When a population is dependent on a non-renewable resource, the potential exists for a collapse of the population as its consumption of the finite resource increases. One model is described

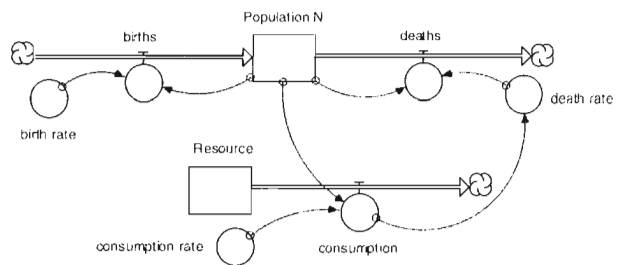
$$\text{by the equations: } \frac{dN}{dt} = b * N - \left(1 - \frac{R(t)}{R(0)} \right) * N$$

where b is the per capita birth rate, $R(t)$ the amount of the resource at time t , and $R(0)$ the initial amount of resource.

$$\frac{dR}{dt} = c * N(t)$$

where c is the per capita consumption rate, and $N(t)$ is the population at time t .

The associated *Stella* diagram is:



There are multiple variations of this model, but the all lead to a graph where the population grows rapidly at first, peaks, and falls quickly to very close to zero. Students are fascinated by this model because of its implications for their own lives.

Environmental Applications

I've developed computer laboratory exercises exploring pollution concentrations as functions of time in simple lake systems, and some models of age-structured populations of salmon in Pacific northwest rivers. In addition I've developed lab projects investigating population biology, including the concepts of exponential and logistic growth, and predator-prey relationships. I developed a lab illustrating bioconcentration

of lead in human bones, and another investigating the spread of epidemics in human populations. I've also developed simulations involving biogeochemical cycles, trophic-level food webs, and groundwater flows. The range of potential environmental, ecological, health-related, geological, or biological applications is almost endless.

So What?

So what's the big deal about teaching all this stuff to college algebra-level students? Why bother?

First, all potential scientists should learn the techniques of modeling dynamical systems. This will be an essential scientific skill in the twenty-first century. Second, for any student who does not wish to go into any of the scientific fields, systems thinking becomes an important skill of *citizenship* in the twenty-first century.

But aside from these high-sounding career-related reasons, why should a mathematics instructor care about teaching dynamical systems as a part of college algebra? The primary reason is that the level of conceptual and mathematical thinking that emerges from a study of dynamic systems is far more profound than the level of thinking that emerges from studying algebra. When you step back from it, college algebra is really a dreary subject. We teach things like order of operations, rearrangement of expressions, graphical representation, solving equations, typology of equations (linear, power, exponential, *etc.*) and, in the 1990's, fitting curves to a set of data points. Don't get me wrong, these mechanical skills are essential. None of us could teach dynamical systems without most of them. *But the intellectual content of algebra is mostly about syntax and rules of grammar.* Most folks don't get too excited about those topics when studying English, let alone when studying the foreign language of mathematics.

By contrast, dynamical systems force us to think about dynamic processes. Algebra is static. Dynamical systems, by definition, are not. Dynamical systems force us to look at the big picture and think of processes as in closed loops (Spaceship Earth metaphor!), even if we don't model the entire loop. Dynamical systems introduce the concept of flow of information and of feedback loops. Where in algebra do we ask that? Dynamical systems often describe something in students' lives that they really care about. Engagement becomes automatic. Contrast this with trying to convince a student that syntax and rules of grammar actually matter to him or her. Finally dynamical systems force us to look for causal factors — systems don't "just behave that way, without a good reason." This encourages students to start making connections between things, often very disparate things.

What kinds of intellectual concepts do (most of) my students gain from studying environmental systems? Most understand that a closed system will reach equilibrium if left alone for a while, and that this equilibrium state is independent of the initial values of any of the stocks. Most understand how to test for the stability of an equilibrium. Most of them have a clear picture of how flows work in compartment models, and what characteristics of those flows lead to a massive build-up of a substance in a given stock

(they understand bio-concentration in the food chain!). Virtually all of them recognize the relationship between concentration of a pollutant and the flushing time in a given reservoir. Most students see what causes overshoot and collapse in a system, and what causes a system to oscillate. Most of them have a reasonably good idea of what a mathematical model is, and what its limitations are, and almost all of them have become fairly adept at finding the assumptions of a given model.

What don't they know much about, as a result of working with me? They don't know much about conic sections, factoring, or the Law of Cosines, nor do they get a lot of practice reducing arcane algebraic expressions to so-called standard form.

But then, you know that my biases will be with teaching students skills that they will need to understand the environmental and ecological issues they will face in the twenty-first century!

Washington Center named as a National Numeracy Network site

The Washington Center, along with Dartmouth, Trinity College, and the University of Nevada-Reno, has been selected as one of four National Numeracy Network sites, supported by modest funding from the Woodrow Wilson Foundation and the National Council on Education in the Disciplines. The Center, excited by the collaborative opportunities associated with the two-year grant, will focus on connecting efforts to develop quantitative literacy across the curriculum with ongoing efforts to improve student achievement in math.

1st Year NNN Project Goals

- *Organize professional development opportunities for faculty from two and four year colleges across disciplines to learn about existing QL materials and develop their own. Materials generated will be posted on the Dartmouth website as will assessments of students' learning.*

The first workshop for six campus teams—Western Washington University, Central Washington University, Evergreen-Tacoma, Pierce College, Seattle Central Community College, and Yakima Valley Community College—will be at Sleeping Lady in August, held jointly with the Math Across the Curriculum Retreat led by Rebecca Hartzler and Deann Leoni of Edmonds Community College.

- *Host a symposium for math educators, mathematicians, multicultural directors, and faculty involved in both math across the curriculum and quantitative literacy to discuss the connections and disconnections between reforming the math curriculum and developing curriculum to increase students' quantitative literacy. Reflective papers from the symposium will be distributed through NNN sites and the web site.*

The first symposium will be held on October 18 in Tacoma. Robert Moses, founder of The Algebra Project and coauthor of *Radical Equations: Math Literacy and Civil Rights* has been invited to keynote.

- *Convene cross-sector meetings about the alignment of expectations as represented in high stakes tests for students' learning in math and QR from high school through college in Washington State. A report on the analysis and its implications will be distributed through NNN sites and web site.*

We are organizing informal gatherings with faculty from neighboring institutions within Washington State. If you are interested in being part of this work, let us know!

Art Out of Torment: One Year Later

Andrea Meld
DeVry Institute of Technology

It was a rare sunny day in November. The sun was low in the sky and the waters of Puget Sound shimmered. I met Susan Rich for coffee at the Alki Beach Café to continue our conversation about teaching about the Holocaust, which had started at the Washington Center Conference last spring when I attended the workshop, *Art Out of Torment: Humanities and the Holocaust*. What follows is an account of our conversation.

How did you decide to teach a humanities course on the Holocaust?

Larry Blades has maintained a strong research interest in World War II. His recent sabbatical in Europe included the study of concentration camps, which he then incorporated into a historical research class. One of the readings for this class was *Night*, by Holocaust witness and survivor, Elie Wiesel. Just as today many people lack information about religions other than their own, such as Islam, the class needed answers to the question, “What is Judaism?” to make sense of the events being discussed in class. In response to this need, Larry invited Susan Rich to his class to discuss Judaism and Jewish practice. Susan had grown up in a Jewish home in Brookline, a community near Boston. Although Larry had some Jewish ancestry, he had no first-hand knowledge of Jewish practice. Out of this exchange grew the idea to offer a coordinated studies course on the Holocaust which would make use of Larry’s background in history and Susan’s background in English, poetry, and international studies.

What were the objectives of the course?

In Fall 2000, Larry Blades and Susan Rich taught a 10 credit course that

offered writing, humanities, diversity and globalism credits at Highline Community College. Students taking the course began to formulate answers to these questions:

- What is the Holocaust?
- What is anti-Semitism?
- What were the conditions of “everyday life” for Jews in the camps and ghettos?
 - What happened to Jews who were in hiding?
 - How was art used as a means of resisting the Nazis?
 - How were victims able to stay alive and/or stay human in the midst of an event as brutalizing as the Holocaust?
 - What was the aftermath of the Holocaust?

What were the primary texts and films for the course?

The textbook for the interdisciplinary program was *Art from the Ashes: A Holocaust Anthology* by Lawrence L. Langer. *Art from the Ashes*, an extensive collection of fiction, journals and diaries, drama, poetry, and art about the Holocaust is especially useful as a means of introducing and framing issues. They also read *The Diary of a Young Girl* and *Night*. Films included: *Europa, Europa*, about a young Jewish man who survives the war by “passing” and fighting on the German side, *Schindler’s List*, about the rescue efforts of Oscar Schindler in Nazi-occupied Poland, and *Life is Beautiful*, perhaps the most controversial, perhaps because of its comic tone. In *Life is Beautiful*, set in Italy during WWII, a father and his son have been transported to a concentration camp. The father, well aware of what is happening, is determined to shield his son from the terrifying reality of the situation by pretending that everything is part of a game.

What community resources are available for teaching about the Holocaust?

A high point of the course was hearing the accounts of several Holocaust speakers who came to class at Highline. Their presentations were arranged through The Washington State Holocaust Education Resource Center (www.wsherc.org), a private non-profit organization that provides Holocaust curricula and teaching resources to teachers across Washington state. The purpose of this organization is to “preserve the authentic memory of the Holocaust” and distribute information to the public regarding the Holocaust. Through resources such as the Speakers Bureau, students of all ages have an opportunity to learn lessons about tolerance, understanding, social responsibility and moral courage in the face of brutalizing events such as the Holocaust. The Speakers Bureau is composed of 25 Holocaust survivors and American concentration camp liberators who volunteer to speak at schools, organizations, and community events. Several speakers, all of whom were Holocaust survivors, spoke in the *Art Out of Torment* class. The testimony of the speakers, who are between 70-80 years old, was especially meaningful to the students in that they may be the last generation to hear stories of courage and survival directly from witnesses—making them witnesses, in a sense, as well.

What kind of classroom environment did the instructors hope to create?

Susan and Larry hoped to create a learning community in which students would be able to express a diversity of ideas and beliefs, respect each other’s views, and actively engage in democratic participation, active listening, and creative risk taking. They asked that students be will to work hard

and enjoy learning new and challenging material. As they wrote in their syllabus:

While we are watching films, listening to guest speakers, reading poetry, stories, and historic documents that are fascinating and engaging, we are also looking at one of the most horrifying times in human history...sometimes it may be hard to read the next sentence, watch the next film, or hear what a survivor endured. We realize that this may be very different from students' other classes as it will engage their hearts and spirits as well as their intellects. Some days may be hard – this will be true for everyone at some point – but we are signing on to learn and understand this history that is part of all of us. Students are encouraged to speak out when they are feeling overwhelmed and/or talk to us. We know that this is tough material, and we are glad to have students who are committed and courageous enough to want to take our course, especially since we both see an understanding of the Holocaust as central to an understanding of the modern world.

How did you advise students to deal with intense emotions engendered by the class?

We suggested three options if students felt uncomfortable with the images or emotions in class: they could close their eyes, write down their feelings in their journals, or if these options did not work, they could leave the room.

Why did students decide to take this course?

Students ranged in their motivation for taking this course. Some were keenly interested in learning more about the Holocaust, after an introductory unit in high school or other exposure to Holocaust history. Others had signed up at the last minute simply because they needed the credits in English and Humanities.

How would you characterize student attitudes about anti-Semitism and the Holocaust at the start of the course?

Many students thought of anti-Semitism primarily as a relic of the past, and

therefore of less concern until the project on Neo-Nazism was presented. Students were taken aback by the amount of anti-Semitic and racist material available on the Internet. None of the students could be described as “Holocaust deniers.” However, during a class exercise, many students reflected on their own questionable behavior, such as calling people on TV derogatory names, and began to recognize it as a casual form of racism.

What happened as a result of the Neo-Nazism project?

One of the projects students could sign up for was on Neo-Nazism today. They used a variety of resources, including Internet sites. This group’s presentation happened to occur early in the quarter. To “get into” his role for the group presentation, one of the students (who did not have Neo-Nazi sentiments) dressed in a Neo-Nazi uniform. Although this was just for dramatic impact, students at Highline outside the class became upset by his presence and appearance. Even though one of his co-presenters explained that the costume was just for effect, it created a disturbance. Unintentionally, a rumor was started about a Neo-Nazi movement on campus. Students expressed anger at this young man and what he represented to them. Their reaction was a pleasant surprise because it indicated that the Highline campus community wasn’t apathetic about anti-Semitism in their midst. In another vein, however, the student who had dressed up as a Neo-Nazi was actually horrified by his own reaction to his feeling of power, and was moved to write a poem about the experience; it helped him to understand at least partially why some people may join or stay in such groups.

How did The White Rose dramatic presentation come about?

The story of The White Rose, a student resistance movement comprised of German medical students during WWII had special impact and meaning in this class. One of the students approached the instructors and asked if she could prepare a readers’ theater project on The White Rose, for extra credit. This project evolved into a full-scale dramatic production which

involved many of the students in the course and had a galvanizing effect on them. The play, as a spontaneous and organic student effort, brought the pieces of the course together, producing an expressive cathartic release from the emotional heaviness of the course.

Special recognition for *Art Out of Torment*

Many students reported that this was the “best class” they had ever taken. Most agreed it required lots of hard work. The curriculum for *Art Out of Torment: Humanities and the Holocaust*, which Susan Rich and Larry Blades developed, received an “Exemplary Status Award” by the Washington Community and Technical College Humanities Association.

What have you decided to keep – what worked well? What did you decide to change?

The core course will basically be the same. Because many students have already read *The Diary of Ann Frank and Night* in high school, they have been dropped from the reading list. We will emphasize rescue and resistance efforts, focusing on the roles played by women and student activists. Because of recent events, some of the material on the Holocaust may play differently to students than was the case when we first taught the course. There is greater awareness not only of our need to pull together but also of our often irrational fear of “outsiders.” In teaching about the Holocaust, the question, “How does this relate to you?” will be asked more frequently. We are planning a smaller class size to foster a supportive learning environment and hope that students will again feel the spark to create their own work on the Holocaust like The White Rose.

Place Poems: Including a Sense of Place in the Curriculum

Susan Starbuck
Antioch University-Seattle

In the 1950s I played with a gang of neighborhood kids in Elephant's Grave, a "mammoth" pit at the dead end of Primrose Place where I lived in Summit, New Jersey. It was dangerous, ringed by impenetrable woods and overgrown with brambles at one end. Too scared to go alone, we little ones slipped and slid after the big kids down the worn dirt path and followed them to various secret spots and forts. I thought that one unimaginably large, gray, and hairy "prehistoric" elephant, with long, long tusks had fallen so heavily that it had created its own grave. I do not remember anyone telling me how Elephant's Grave came to be; yet I know that I pictured that humongous elephant as I ran down Primrose to the lip of the mysterious pit where its spirit was entombed.

Like an indigenous creation myth, my story connected me to my neighborhood. I can feel the passion of that connection now as I write about it. Stories tie us to places. A western anthropologist, Bruce Chatwin, tells this anecdote: During a seven hour drive crossing the Australian outback in a Land Cruiser, Chatwin and a group of Aboriginal men came to a confluence of two streams. One of the Aboriginals, Limpy, "shoved his head through both windows. His eyes rolled wildly over the rocks, the cliffs, the palms, the water. His lips moved at the speed of a ventriloquist's and through them came a rustle: the sound of wind through branches."¹ Every Aboriginal is responsible for singing the creation songs for certain landforms. "Limpy had learned his . . . couplets for walking pace, at four miles an hour, and we were traveling at twenty-five."² The driver slowed the truck in order that Limpy might chant his songs at the right tempo.

The entire Australian landscape is drenched with "songlines" left by the ancestors whose bodies *are* the landscape. While still in the womb, each Aboriginal person is impregnated with a songline at a particular site. With the songline goes a profound responsibility to take care of the conception site by re-singing it into existence. "Without these maintenance processes the site remains, but is said to lose the spirit held within it. It is then said to die . . ."³ A land and people of forgotten songs would be dead, prey to purely materialist activities such as strip mining, clear cutting, and passive absorption of TV images.

Can North American students listen to and take responsibility for the places they live in? How can we experience the ineluctable tie between story and place? On the psychological level, we know with Carol Christ that "Without our stories, we don't have our selves."⁴ I want students to think of ways that creation myths are true: stories actually create our physical world and creation is "an ongoing process—the perpetual emerging of the world."⁵ If we don't tell and retell stories of place, our world will no longer exist.

"Place Poems: Including a Sense of Place in the Curriculum," a session I led at the Washington Center Annual Conference in February 2001, experimented with linking words and places. The goal of the workshop was to create Place Poems on the spot. My notion of place connotes *any* place, not just some wilderness stereotype, so I was happy to teach Place Poems right in the rooms, hallways, and atrium of the hotel. I hoped participants would experience a structural relationship between language and place; that is, I wanted participants to sense the energy of a place, listen to it, and

express it in poetry rather than to project their own, individual, subjective consciousness onto the place. I hoped to discuss questions about how place affects consciousness, how we find words that express the "genius loci" of a place, and how places might be our teachers.⁶ I will describe the protocol for the workshop and some participant reactions.

1. Utilitarian Functions of Poetry and Story: We discussed the ways sea chanteys, pantoums, and stories are used for navigation. We sang together some work songs: "I've Been Workin' On the Railroad," and the "Volga Boat Song," acting out the body motions that go with the song's rhythms. I sang a Chinese children's song about harvesting radishes and enacted the motions that go with it. Poetry, we said, could be linked to survival not only of farmers and sailors, but to the existence of the earth.

2. Poetic Meter: We sang "We are Marching to Pretoria," chanted our names and some lines of Shakespeare to experience the natural rhythms of the English language. We then scanned the lines to identify iamb, trochee, spondee, anapest, and dactyl.

3. Culture Groups: I instructed groups of four or five participants to introduce themselves to each other, find their commonalities and differences, give the group a name, and take the roles of Walker, Recorder, Counter, and Clapper. It was important to the collaborative work ahead that the group members get to know each other.

4. The Process of Creating Place Poems:

“
Can North American students listen to and take responsibility
for the places they live in? How can we experience the ineluctable
tie between story and place?”

a. Groups find a place: The groups discussed different places in the hotel they found attractive. They could have gone outside, stood by a door, stayed in a conference room, sat in an atrium, or found a stairway. The collaborative decision about place helped the groups consolidate their identity and process.

b. Groups select a distance: The groups marked the beginning and end of their distance. Some groups created spiral places linking ground with air or with the underground. Most made lines from A to B somewhere in the hotel. Group members walked the distance to get a feel for the place.

c. Groups select a meter: When asked to select a meter appropriate for their place, the groups entered heated discussions and began to develop a group persona. “It’s a lilting space,” or “We need a strenuous rhythm,” are some of the comments I heard.

d. Clappers and Walkers delineate the space: The Walker walked the line between A and B that marked the site while the Clapper clapped the chosen meter. The Recorder wrote down the number of feet (paces) reported by the Counter. This number told the group how long each line of the poem would be. The groups debated heatedly about whether or not there would be one continuous line or a line break on each walk. They noted that the Clappers would match the speed of the claps to the speed of the Walker. Clappers and Walkers adjusted meter to stride and stride to meter to find the right pace for their place.

e. Recorder writes the meter: On an overhead worksheet, the Recorder wrote the number of feet that a Walker could fit in the space between A and B. This was the meter and length of one line of the Place Poem.

For example, the group that called itself Stairmasters (located by a stairwell) chose a line of seven feet of anapests. The group called Trochee and the Bandits chose two lines of ten trochees each.

f. Groups practice poem without words: All group members walked the space with the rhythm they had chosen, noticing their surroundings and listening to the space. They had created a poem with rhythm, but without words.

g. Groups write words: The poem had to include three elements

1. Direction: two of the six directions (N, S, E, W, up, down)

2. Non-human element: an unplanned, unexpected, non-human-made feature of the space. In a hotel this could be evidence of rats, mold, a leak in the ceiling, etc.

3. Event: a real or imagined event, for example, an earthquake, a birthday, an election, the day you aced your exam, etc.

h. Groups perform their poem: All group members walked the space chanting or singing the poem they had created for it.

5. The Fun Part: Workshop participants traveled together around the hotel to watch each group perform its Place Poem. We re-gathered to discuss several questions: How did the activity change or sustain beliefs about poetry? How did it change or sustain beliefs about the connection between language and place? What are our responsibilities to place? What ways can we use poetry or chants in our lives? This last question produced many suggestions: chants to help with fire drills, rhythms to help with memorization, poems to help people divide into groups or change workstations, stories or poems to help locate

a friend’s house, find one’s way through a woods, or even find one’s way to the hairdresser’s.

All of the groups reported a new understanding of the connection between words and places. For most participants, it was the quality of their group interaction that impressed them the most. For example, the “Isle of View” group chose a two-story atrium. From the second floor, they looked down to a waterfall and up to a skylight. They created a soft, rhythmic Place Poem:

Pennies shine, water drips, people talk
Beneath sky’s flowing light –
Pennies shine, water drips, people talk
Beneath sky’s flowing light.

A participant wrote: “The connection within the group, Isle of View, was key. Working together flowed. It was a free place to wield metaphor—a sense of the columnar, rounded petals—a sense of wonder. We made beauty.”

Another group developed pride in its multicultural diversity. They stood by a door and spun around in a dance, chanting:

East by Fire, Feel the Wind
West to Water, Break in Time
East by Fire, Feel the Wind
We relate, In Lakech.

“Lakech” is a word from a group member’s native language meaning “Oneness,” or “All.” A participant said: “At first, it didn’t seem as if we had much in common. No connections. After finishing the poem, I realized that place—situation and similar physical experiences *at the place*—brought us together. ‘Break in time.’ Time is restricting, binding, controlling. Fire

(burn, death), Wind (life), and Water (cleansing)—all of these ‘break into time.’” From the same group, a participant wrote: “We related with amazing ease *because* of our distinct ethnic backgrounds. We were compelled to share and shoulder the responsibilities of a common task. Perhaps we found a solution to world peace!! It was a most satisfying experience.”

Located on a bridge that overlooked tables around a waterfall, the group called Resistance imagined they were on the edge of water.

Elbow in, elbow out
See them swim, hear them shout
Half way up, half way down
Don't look down, you might drown.

The group reported that their Place Poem represented both their resistance to the activity and their insight that the resistance came from fear that the exercise would make them lose their accustomed footing, the sure ground of their relationship to their surroundings. A member of this group said: “I spend a lot of time dissecting words and phrases but never in relation to place. I think this experience allowed me to connect my thinking on and off the page. Words don't operate in a single realm but have a life outside the page.”

I plan to run this lesson—extending

it to stories—in schoolyards, parking lots, strip malls, parks, and wilderness areas in order to learn more about how to teach a sense of place to students. I would like students to see places, not just people, as teachers, and eventually to re-story the entire planet.



Rahael Jalan (Institute of Indigenous Government) and Roberto Gonzalez-Plaza (Northwest Indian College) share their poem, *East By Fire*, with session participants.

References

¹ Bruce Chatwin, *The Songlines*, London: Penguin Books, 1987, pp. 293-294.

² Ibid.

³ Helen Payne, “Rites for Sites or Sites for Rites? The Dynamics of Women’s Cultural Life in the Musgraves,” in Peggy Brock, ed., *Women, Rites, and Sites: Aboriginal Women’s Cultural Knowledge*, North Sydney, Australia: Allen & Unwin Limited, 1989, p. 56.

⁴ Carol Christ, *Diving Deep and Surfacing*, 1982.

⁵ David Abram, *The Spell of the Sensuous*, New York: Random, 1996, p. 167.

⁶ Keith H. Basso, *Wisdom Sits in Places: Landscape and Language Among the Western Apache*, Albuquerque, N.M., University of New Mexico Press, 1996.

Can Institutions Change?

Tom Fox
California State University-Chico

Faculty are used to making changes in their classrooms. Good teachers revise their syllabus each semester and often change direction in the middle of a class period. Many of us have taken courses or attended workshops that help us make changes in our teaching. But what if faculty wish to change the program that their class is in? What if they wish to challenge the validity of the placement test that decides who gets to take their class? Anyone who has attempted to eliminate a test or design a new major has run into new problems. Many of us who have engaged institutional change may answer the title question in the negative. Institutional change is often exhausting, confusing, frustrating, and depressing. More often than not, the energy for such change wanes before one achieves success.

A year ago, at the Washington Center's 14th Annual Conference, about thirty teachers and I explored why institutions are so hard to change, and given that, explore ways of making the changes we need. We read two scholars who have studied the workings of bureaucracies, Michael Herzfeld (*The Social Production of Indifference*. Chicago UP, 1992) and

Kathy Ferguson (*The Feminist Case Against Bureaucracy*. Temple UP, 1984). Both authors argue that bureaucracies seek to maintain the status quo. Herzfeld notes that bureaucracies historically grew with ideas of nationality and work to maintain a homogeneous language and culture. For teachers, this means that any institutional change towards diversity will be extra difficult.

We then moved from theory to case studies of institutional change from my campus: an eight year drive to eliminate an upper-division writing test and our successful effort to institute a mainstreaming program to replace basic writing. Both of these efforts required time and patience. Though every institution is different, we came up with some strategies that might work at other campuses:

- Get help from elders. There is knowledge in experience and, often, older faculty members add credibility to a change.
- Try a pilot program. This is the standard "foot in the door" technique. Once a pilot is successful, faculty can use information from the pilot to build a stronger case for change.

- Use outside experts. Often when somebody from outside a situation suggests a change, administrators listen more carefully. Many professional organizations offer consultant services.

- Get support from outside your discipline, if appropriate. If a larger part of the campus supports a change, then it will be more likely to be successful. Academic Senates and even unions can help.

- Go to the press. A reasonable article about the proposed change puts your case in the limelight. All institutions need to look good in the eyes of the public.

- Be persistent. Often change occurs when the resistance is more tired than you are. Always show up.

The faculty at my workshop had many examples of change at their own colleges and universities. Each had changes of their own that they wished to make. Together we brainstormed ways to make these changes. I was struck by the novelty of the conversation. Faculty often get together to gripe about institutional constraints. This conversation focused on changes, on possible strategies, on success. We need to have such conversations more often.

Defending Access: A Critique of Standards in Higher Education

Fox, Tom. Boynton/Cook Publishers: Heinemann, Portsmouth, NH, 1999.

Defending Access involves readers in a conversation with a gifted teacher, Tom Fox, who values access and academic excellence, and actively works to subvert institutional pressures for standardization. Fox, who teaches first-year writing, undergraduate and graduate courses in composition at the California State University-Chico, also directs the Northern California Writing Project and helps administer the university composition program.

Fox is not an advocate of literacy standards that are more about excluding students than raising instructors' expectations. "Uninformed commentary about the supposed declining literacy of college students. . . implicitly or explicitly refer(s) to immigrant students or students of color whose difference—cultural and/or linguistic—is more at issue than their performance."

Instead, the standards Fox actively endorses are not general but particular, contextualized, and directly related to the personal and intellectual development of each student: "Teachers are thinking of ways to challenge students to achieve more, to be more thoughtful and reflective about their writing, to be more effective and powerful in their critiques, to turn their attention to compelling and important topics to write about."

Toward a Culture of Enriched Learning: A Campus Change Project at Western Washington University

Carmen Werder
Western Washington University

I recall the night before our 2001 Washington Center Conference workshop. While our team of eight (three faculty, two administrators, and three students) had met over a course of many weeks, it wasn't until the evening before that we found the mental space to put our pieces together. We flopped on every available seat in my Marriott room and talked – that real talk that happens when you have nothing else scheduled. As members of Western Washington University's Teaching and Learning Academy, we planned how to initiate a conversation around our efforts to foster a culture of enriched learning.

Founded as a normal school for teacher education, WWU has always been clear about its interest in good teaching. In recent years, as the paradigm has shifted from a focus on teaching to a focus on learning, we have turned our attention to the nexus between the two. In 1998 under the leadership of a new Provost, Andrew Bodman, we joined the Campus Conversations Program sponsored by the Carnegie Foundation for the Scholarship of Teaching and Learning (CASTL). Spearheaded by Kris Bulcroft (now our Vice Provost for Undergraduate Instruction), Western's alliance with the Carnegie Program resulted in a teaching and learning movement.

As Director of Interdisciplinary Programs, I have had the pleasure of working with this project since its inception. Thanks to President Karen Morse, I received a summer stipend in 1999 to work with Vice Provost Bulcroft in planning an agenda for the Carnegie core group of faculty and a series of all-campus forums. During one of those discussions, a faculty member from Education, Bill Lay, asked what seemed like an innocent question: "Where are the students?" Nothing has been the same ever since. First as part of a leadership course

and now as part of a university studies course, entitled "Learning Reconsidered," students from first- through senior year have participated in our Teaching and Learning Academy (TLA) – along with faculty, staff, and administrators.

The TLA has two major goals:

- To seek a culture of enriched learning that is applied, authentic, engaged, integrative, and reflective.
- To cultivate a learning culture that is comfortable with the ambiguity of this ongoing search.

Here are fragments of what our TLA team had to say in the workshop:

Ken Keleman (Professor, Management) reminded us that in order not to become "unraveled" along the way of organizational change, we need to attend both to reshaping institutional *structure*, and to addressing the often neglected areas of *leadership* and *process*.

Anthony Papini (Junior, Fairhaven College) told about his work in residence life and academic advising and urged us to honor the learning that happens outside of the classroom.

Connie Copeland (Director, Academic Advising) presented a visual model for change that begins with making deep learning our guiding principle and encouraged us to focus on aligning our "small wins" in the same change direction.

Glenn Gilliam (Senior, Management)

cited his leadership experiences as learning opportunities and promoted the benefits of a "diffuse leadership" model that enables deep learning and also returns dividends to the institution.

Toby Smith (Professor, Fairhaven) acknowledged that "time is not on our side" and called for more ways to give learners the time needed to develop the intellectual capacity for deep learning.

Leslie Napora (Senior, English)

recalled an invitation for deep learning in a class where she seemed to be the only one willing to accept it, suggesting how the learning culture itself must change.

Rosalie King (Professor, Art) shared some of the "wonderful possibilities in pedagogy" for enriching learning.



Students Glenn Gilliam and Anthony Papini and faculty Carmen Werder (Western Washington University) participate in a pre-conference workshop at the 2001 Annual Conference

Workshop Participants' Response

For a complete list of common themes generated in the second segment of the workshop, see the Washington Center website. Here are two highlights:

- Keep pushing for student involvement – asking what learners need to learn best.
- For every classroom and campus decision,

Ask: What will this event/practice/policy/procedure do to enrich everyone's learning?

What would we do without opportunities to talk about how to enrich learning together?

Adjunct Faculty: An Injury to One is an Injury to All

In higher education, connections are rarely made between working conditions and learning conditions although our educational institutions are both places of learning and places of work. Many students who juggle jobs and school, know that work does affect learning. Faculty, counselors and academic advisers also bear witness to the toll exacted on students' grades, health or both when too many credits are combined with poorly paid, erratically scheduled part-time work. Faculty and staff working conditions also affect students' quality of learning. Within academe, the disproportionate number of poorly paid adjunct faculty surely affects the learning of students and working conditions of full-time faculty. At Washington Center we have taken our first steps to connect adjunct faculty's working/teaching conditions with issues related to quality student learning.

We invited Gary Murrell, who teaches history at Grays Harbor College in Aberdeen, Washington, to comment on an unmistakable reality at two and four-year educational institutions: the continued reduction of full-time, tenured or tenure-track faculty and growing reliance on adjunct/part-time faculty. Below are excerpts from his essay, *Exploiting the Reserve Army of Adjunct Part-Time Labor*.

The full essay is available on Washington Center's website www.evergreen.edu/washcenter under 'Resources and Conversations' in a format where you can dialogue with the author and other readers on adjunct faculty issues.

Excerpts from *Exploiting the Reserve Army of Adjunct Part-Time Labor*

Gary Murrell
Grays Harbor College

"Even if adjunct faculty manage to put together enough courses to barely survive financially, their exploitation goes beyond low pay. As a class, part-timers are not privy to most of the perquisites afforded their full-time counterparts. They have no job security, never knowing from quarter to quarter whether they will be working again. While some adjunct/part-time faculty members are now eligible for some medical and retirement benefits, calculated on locally negotiated conditions, they are still not paid for research, preparation, grading or office hours. Their contact with students is limited to the fifty-minute classroom. Their interactions with full-time faculty colleagues are practically non-existent. Most have no role in department governance and worse, in some cases, full-time faculty refuse to acknowledge part-time faculty colleagues as even being members of the department.

Winning the right to medical and retirement benefits has come with a cost. Administrators and boards of trustees, who have reluctantly agreed to provide even limited benefits, proclaim loudly that in principle they support better pay and benefits for part-time faculty. But, when calculating budgets and course contracts for part-time faculty, to save money, administrators have adopted policies that limit course offerings for part-time faculty members who are eligible for benefits and hire additional part-timers who do not qualify for benefits. Thus, length of service and loyalty to an institution can actually cost a part-time faculty person his or her employment.

The two-tier system has no basis on merit. Adjunct faculty are just as capable and often times show more dedication to teaching and learning than their full-time

counterparts. Nonetheless many adjunct faculty have, for years, internalized their own oppression and blamed themselves for not having secured a tenured or tenure-track position. But the blame lies elsewhere. When it eventually does come time to fill a vacated full-time position, a mysterious and uncertain process at best, long time adjuncts are often passed over, stigmatized by unfathomable assumptions, stereotypes perpetuated by the corporatization of academia and accepted, often without question, by tenured faculty-hiring committees. What is certain in this process is that adjuncts cannot rely on the good will of tenured and tenure-track faculty.

...the new system creates a two-tier class system for students as well. Even though all students are now paying top dollar for their education, even at the community college level, some students receive an

education on the cheap when adjunct faculty teach more than half of introductory courses. One class of students, those registered with a full-time faculty member, has opportunities not afforded to the other class. This

discrimination is especially glaring when students need assistance. One class of students has full access to a faculty member's office hours. But in a system of education on the cheap, when adjunct faculty

are not expected to hold, *nor paid for*, office hours, one class of students, those who take course from adjunct faculty members, are denied the help that could make the difference between passing and failing."

Documenting the shift from full-time to part-time to 'freeway flying' instructors

In a 1984 article titled, *How do part-time faculty affect the quality of academic programs?* Judith M. Gappa alerted the higher education community to what she believed was already a growing trend: the increase of part-time faculty on college campuses over the previous three decades. By 1980, Gappa noted, a surprising 32% of *all* faculty were part-timers—53% worked at two-year colleges, 34% at four-year colleges, and 13% at universities.

Nearly thirty years later, findings from a recently released study conducted by the National Center for Education Statistics confirmed Gappa's contention. Based on a survey of 960 institutions policies and practices, part-time faculty members counted for 43% of all colleges and university faculty in 1998. While this represented an increase of only 1% from the previous year, 40% of the institutions surveyed had taken steps between 1993 and 1998 to reduce the size of their full-time faculties. By 1998, 21% of faculty at universities worked part-time compared to 65% part-time faculty at public two-year institutions.

Resources

www.gseis.ucla.edu/ERIC/bulletins/newsfall98.html

Online information on part-time faculty in community colleges from organizations to publications

nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2001201

National Center for Education Statistics study

www.aft.org/higher_ed

American Federation of Teachers, AFL-CIO resources for part-time faculty in higher education including online publications related to "The Academic Personnel Crisis": *Marching Toward Equity: Curbing the Exploitation and Overuse of Part-time and Non-tenured Faculty*, October 2001; *The Vanishing Professor*, July 1998; *Statement on Part-time Faculty Employment*, 1996; and *Part-time Faculty Issues*, June 1994

omega.cc.umb.edu/~cocal/

Website for Boston's chapter of the Coalition of Contingent Academic Labor and entry point for related resources

www.sbctc.ctc.edu/Pub/RESEARCH/Resh98-4.doc

Washington State Board for Community and Technical Colleges comprehensive research report on part-time faculty in Washington community and technical colleges.

Voices of adjunct faculty

Ghosts in the Classroom: Stories of College Adjunct Faculty—and the Price We All Pay, a collection of essays written by adjunct faculty published in 2001, documents the consequences of "running higher education as a business", a practice according to Richard Moser, National Field Representative, American Association of University Professors, that is "a national disaster in the making" www.camelsbackbooks.com

Calendar of Upcoming Events

April 25-26, 2002

Curriculum Planning Retreat
Rainbow Lodge, North Bend, WA

May 10, 2002

Critical Moments Retreat
Seattle Central Community College

June 10, 2002

Planning Committee Meeting
The Evergreen State College

June 25-30, 2002

2nd Annual Institute on Learning Communities
The Evergreen State College

August 20-24, 2002

Math Across the Curriculum and National Numeracy Network Retreat
Sleeping Lady, Leavenworth, WA

October 18, 2002

National Numeracy Network Symposium
Tacoma, Washington

February 20-22, 2003

Washington Center's 16th Annual Conference
North Seattle Community College

June 24-29, 2003

3rd Annual Institute on Learning Communities
The Evergreen State College

For a complete listing of events and agendas, please go to our website: www.evergreen.edu/washcenter

Critical Moments Project

Empowering Students and Their Communities

When students of color and other underrepresented students tell their stories, often a remark or incident is the tipping point that makes them think about dropping college. The *Critical Moments Project* in Washington state—a collaborative initiative sponsored by The Washington Center for Improving the Quality of Undergraduate Education—highlights these critical moments in our students' lives. Students are interviewed; their experiences are written as case stories; and these stories, in turn, become starting-points for discussion in classroom and other college settings. For students, *Critical Moments* cases are a means to develop critical thinking and advocacy abilities. For faculty and other college personnel, case discussions invite us to rethink collective and institutional practices that may be less equitable than we believe.

What students say

Students' reactions to *Critical Moments* confirm why this work matters. One South Puget Sound Community College student, commenting on the experience of interviewing a classmate, wrote: "I don't want to interview everyone, but I think I'll be a bit more sensitive to the fact that each time I connect with someone we're both just one story away from understanding each other much more deeply, and relating to each other with more empathy." Students' self-evaluations from participating campuses document the personal discovery, critical inquiry, and engagement we associate with transformative learning.

Join Us

In July 2000 we received grant money from The William and Flora Hewlett Foundation to pilot *Critical Moments* at Seattle Central Community College, Tacoma Community College, The Evergreen State College and South Puget Sound Community College. Substantial in-kind contributions from these institutions support campus work. Washington Center's in-kind contributions support inter-institutional collaboration and the work of teams new to *Critical Moments*. Dr. Gillespie and her colleague, George Woods, MD, University of Washington-Bothell, serve as consultants to the project. If you are keen to become involved please contact the Washington Center.

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washcenter@evergreen.edu

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The Washington Center for Improving the Quality of Undergraduate Education

■ Established in 1985 at Evergreen as an inter-institutional consortium, the Center focuses on low-cost, high-yield approaches to educational reform, emphasizing better utilization and sharing of existing resources through collaboration among member institutions. Established with funding from the Exxon and Ford Foundations, the Center is now supported by the Washington State Legislature.

■ Includes 50 participating institutions: all of the state's public four-year institutions, community colleges, technical colleges, one tribal college and ten independent colleges.

■ Supports and coordinates the development of interdisciplinary "learning community" programs, inter-institutional faculty exchanges, curriculum reform initiatives in science, mathematics and cultural pluralism, and offers conferences, seminars and technical assistance on effective approaches to teaching and learning.

Washington Center
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