College-level reading and writing: Considering curriculum from a postmodern perspective

Brenda Jean Littleton

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COLLEGE-LEVEL READING AND WRITING: CONSIDERING CURRICULUM FROM A POSTMODERN PERSPECTIVE

A Project
Presented to the
Faculty of
California State University,
San Bernardino

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts
in
Education:
Reading/Language Arts

by
Brenda Jean Littleton
June 2005
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ABSTRACT

This thesis provides the analysis that educational reforms based on post modern science have greater validity and promise than reforms based on models that perpetuate the limited assumptions of modernist science.

The focus of education reform investigated in this conversation is college-level reading and writing. The adult learner is the end result of our educational system. The learner's relationship with reading and writing constitutes the cumulative effect of literacy development during twelve years of schooling. The general lack of overall literacy reflects the larger issues in education, which include systemic reform. If a student reaches college and still requires reading recovery instruction, or if a graduate student cannot pass the writing competency requirement, then the premise is the literacy systems these students have matriculated through are not effective.

This study looks at some new ideas that are the outcome of post-classical science such as quantum physics. Significantly, these new sciences describe a world that is fundamentally context-driven in which there is constant internal change; in which the whole organized the parts; and at the most basic level of matter there is an
interdependent nonlocality. The addition of "meaning" to an expanding universe has heuristic applications as the companion to these changes in science, which can also be the changes used in developing literacy systems. If education models are not post modern, then they are based in old science.

It is the desire that the outcome of this discussion will provide an understanding for the framework and the benefits of postmodern constructs in developing a curriculum matrix in literacy for the adult learner.
ACKNOWLEDGMENTS

Thank you, Sam Crowell for your words, "What is important?" Your gifts of deep understanding and further conversation are my true education; there's a lot is going on in there.

Thank you, Diane Brantley for providing the path. Your acceptance helped my confidence; your stories kept me calm.

Thank you, Sandy Lynch, for your stories of place. I now have a place for my own stories; I followed you very closely.

Thank you, Chuck Alvarez, for your special patterns of discourse. The river doesn't seem so wide, but is still wild and deep; you have a song for everything.
To Anne Barnes
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issues in education, which include systemic reform. If a student reaches college and still requires reading recovery instruction, or if a graduate student cannot pass the writing competency requirement, then the premise is the literacy systems these students have matriculated through are not effective.

The following discussion links this lack of effectiveness to the assumptions found within modernist science. Such thinking can be described as reductionist, linear, rational, isolated, measured parts, "imposing order, connecting effects with causes, transmitting ideas, and finding truth through scientific methodology" (Doll, 1993, p. 157). This essay will show that an awareness new ideas emerging from post modern science may play a significant role in substantive and positive change.

It is the desire that the outcome of this discussion will provide an understanding for the framework of post modern constructs toward curriculum and literacy. Again, Doll leads the discussion from his seminal text, A Post-modern Perspective on Curriculum:

In this frame, where curriculum becomes process, learning and understanding come through dialogue and reflection. Learning and understanding are made (not transmitted) as we dialogue with
others and reflect on what we and they have said—as we negotiate passages between ourselves and others, between ourselves and our texts. Curriculum’s role, as process, is to help us negotiate these passages: toward this end it should be rich, recursive, relational, and rigorous. (1993, p. 156)

David Bohm, professor emeritus of theoretical physics, at the University of London, identifies some of these new ideas that are the outcome of post-classical sciences such as quantum physics. Significantly, these new sciences describes a world that is fundamentally context-driven in which there is constant internal change; in which the whole organizes the parts; and at the most basic level of matter this is an interdependent nonlocality (Bohm, 1988). These changes in science can also be the changes used in developing literacy systems. If education models are not post modern, then they are based in old science. "Connecting and transforming modernism with "post" thinking will not be easy," says Doll (Doll, 1993, p. 157). "Our current school curricula are not merely based on a scientific-efficiency model, but have their foundations in seventeenth- to nineteenth-century modernist thought. This needs to be
questioned, for what is self-evident in one paradigm becomes absurd in another” (Kliebard, 1986, cited by Doll, 1993, p. 158).

The Situation

The world of reading-language arts is comprised of people helping other people develop their literacy skills. It is a world of personal interaction with political relevance. When the student is an adult learner, the efforts towards literacy is not considered prophylactic as it is for young, emerging readers, but is instead seen more in terms of remediation of an unwanted, unacceptable condition of illiteracy. There is a growing amount of literature on the social crises of the lack of literacy in this country. In his book, *Illiterate America*, Johathan Kozol’s describes a population of:

Twenty-five million American adults (who) cannot read the poison warnings on a can of pesticide, a letter from their child’s teacher, or the front page of a daily paper;

Another 35 million read only at a level which is less than equal to the full survival needs of our society;
These 60 million people represent more than one third of the entire adult population;

Fifteen percent of recent graduates of urban high schools read less than sixth grade level.

The largest numbers of illiterate adults are white, native-born Americans;

The United State ranks forty-ninth among 158 member nations of the U. N. in its literacy level. (p. 4-5, as quoted by McLaren, 1998, p. 38)

McLaren has also discussed that lack of literacy is relational to lack of education, power, money, and true wealth (ibid.). Numerous scholars have provided excellent discourses on critical literacy (bell hooks, 1994), critical pedagogy and praxis-oriented pedagogy (McLaren, 1998), and have established poverty, and the corresponding class-structured subjugation, as a major factor in determining the success of students at school (p. 39). While this project provides investigation into the correlation between modern science systems and current
literacy conditions in adult learners, this project does not attempt to argue against, or diminish any issues brought forth from the above canon's work of exposing capitalistic failures, hegemony, or social capital. The activity of social muck-raking is inclusive of the modernist system. I would only wish to ensure Mr. McLaren the efforts held on these pages do reflect a strong consideration for social change through applied post modernism, as opposed to his assessment of post modernism as a "type of intellectual high-mindness that is modulated through the embourgeoisement of academic parvenues bent on stirring up the system without fundamentally changing it" (p. 21). I propose that education systems like to be the umbilical cord between systems of science and systems of people: Let that relationship stay the same. But, as education follows science, and as science has changed, then let the change flow from the one to the other. While postmodern science is only one aspect of a larger discussion of postmodern philosophy, it is foundational to an understanding of our time. Unlike deconstructive philosophies, post modern science contains the seeds of a constructive world view and a constructive agenda that can be developed and applied. It is proposed that this change will support foundational restructuring so wanted in
critical pedagogy, critical literacy, and praxis-critical pedagogy. While Doll has said the change from modernism to "post" will be difficult, I think the changes required in critical pedagogy will be impossible, without the support and the potential appeal, found in post modernist science.

The Personal and the Significance

As a reading/language arts diagnostician, who works with adults, much of my time shared with learners is one of a personal relationship built on detailed attention and private insights. When a learner sits in an assessment session, many of their inner most fears about their identity and their ability are revealed to the diagnostician in a wide and a vulnerable manner. It is not unusual to gain access into their socio-economic-cultural situation while collecting information. A strong psychological component is also explored while finding out about their attitudes and perceptions.

In spite of all the quantifiable, standardized and timed assessments, most of the analyses is developed and delivered by methods of case studies, interviews and ethnographies. A personal narrative is established, and serves as an ongoing marker for growth. While it is mostly the learner disclosing information, the diagnostician is
still involved in an indelible, inter-relational exchange by providing access and ability between the learner and their dreams of doing better, of being smarter, of reading.

Understanding someone’s literacy strengths and deficiencies creates a unique relationship with the learner: a relationship of responsibility, of stewardship, and of congruence. Responsibility exits because of the diagnostician’s investment in identifying and managing the learner’s area of perceived lack. It is similar to seeing their secrets. Influencing a learner’s self perception with nonjudgement is integral in maintaining responsibility. Stewardship is established by providing professional guidance in their literacy development. Appropriate watermarks of possibility and potential rests in stewardship. Congruence is the alignment of belief and practice. It is establishing a knowing for the learner to rely upon when they are lost and need to be realigned. Congruence allows the diagnostician the room to change their mind in making the progress a better process for the learner.

All of these considerations are produced out of understanding the meaning found within the learner’s situated existence (Wiggins, 1998). While it might be at
first construed to be a causal-effect, "They are this way because...." (fill in the blank with any prediction), it is instead more about looking at the backdrop, the context, the story, and asking educational questions about where has this person been, how did they get here, and try to figure out what strategies they have been expose to (Weaver, 2002). Much of the work is focused on recovering skills of reading and writing, and on creating ways for learners to build personal and professional confidence. A sense of caring and consideration is created in showing a learner how to mitigate current literacy problems, as well as any ones in the future. "There does exist a fascinating, imaginative realm where no one owns the truth and everyone has the right to be understood" (Doll, 1993, p. 155, quoting Rorty-Kundera).

Yet, no matter how diverse the learner, no matter how "well-educated," or how successful in the corporate world, or even the legislature (I was a corporate lobbyist for six years), each learner or client harbored literacy deficiencies. Looking at how or why people exhibited these deficiencies might have been enough, but what I truly found interesting was the prevailing belief of separation between each person and their literacy. "I’m just not a good speller"; "I don’t like to read"; "I don’t have time
to write"; "I don’t have time to figure this out," describes a sense of common acceptance towards a low tide of literacy. I became curious about conditions of learning. What is it within our system that makes us comfortable with being separate with our literacy? It is intentional that I use the word "with" as opposed to "from," for I see an attachment between the person and their literacy; they keep it along side of them, separate as an appendage or as an appendix, as it were. If people were separate "from" their literacy, they would place literacy outside of their realm of identity, as I think many of our population do. It is wider population of learners, I'm looking at that matriculate through our education system, only to end up thinking their level of literacy is not as good as it could/should be, but this is completely acceptable because everyone else also has the same problem. When did this happen? Why is there such a level of complacency and separateness in our connection with literacy?

Description of the Project

This project presents qualitative investigations into the relation of science systems to education systems, and suggests post modern constructs as models of systemic
change, with application toward reading and writing literacy for the college-level adult learner.

Contents of this project are based in analysis of the connection between systems of modern science and the systems of education, and the effects these systems have on adult literacy. Efforts have been made to situate the discussion in post modern constructs: instead of examining data, the information will be delivered as a conversation. Instead of a separate methodology, a deep review of literacy application has been developed. Instead of presenting answers and resolutions, questions about possibilities and reflections are submitted for recursive dialogues. The system of discourse is open, unfolding, narrative, and unfinished. Use of word choice in support of extending post modern understanding to these constructs is also incorporated within the text. The idea of "working" through something, is now a "process"; "transmitting" is now "transforming"; searching for answers is now looking for questions.

The intended audience is anyone who is interested in literacy systems, post modern applications, or heuristic learning. The limitations found within this discussion are based in the reality that I am not a quantum physicist. I am a student of post modernism that sees the connection
between heuristically transferring the principles of quantum physics toward literacy. This may seem strange, but it makes perfect sense to me; which in itself is a large limitation of bias and perceived value. Another limitation is not having enough time perform a longitudinal study on post modern applications toward literacy. I present many examples and interpretations of applied post modern curriculum, and we look at how considerations of adult literacy systems can be arranged according to post modern constructs, but there is nothing written that provides a history of using these ideas in practice. All we have is the existing story of modern science and its effects on literacy for the past three hundred years. Another missing element in this narrative are the success stories of people who have done well in their learning. I have not included stories of those who feel confident and satisfied in their ability to read and write. I have decided those people have already written books on maintaining the existing modernist system, and support curriculum development examples similar to No Child Left Behind, and are now publishing texts of the same. The rest of the happy literate have already been addressed by McLaren.
It is intended this conversation will assist in continuing dialogue of educational reform. If nothing else, it can stimulate inquiry towards the reader’s relationship with their own literacy. In reading-language arts, this material can also guide the diagnostician towards the use of narrative, of story, in preparing assessments for students. An example of a narrative case study is provided in Appendix B, as well as a ten week college-level reading and writing curriculum matrix that develops point-of-view, social engagement, and literacy of place, is in Appendix C. The goal is to provide support and awareness of the works of authors who have positioned post modern constructs as an application in educational systems and to assist the huge demographic of adults with their literacy.

The problems of teaching and learning need to be handled from a practical rather than a theoretical perspective; that is, they need to be seen not as part of various competing theoretics but in terms of their own local “states of affairs.” They need to be treated in a manner “concrete and particular...indefinitely susceptible to circumstance and therefore highly liable to unexpected change” (p. 289). They need
to follow the nonlinear models quantum physics and chaos mathematics set up, not the universal, all-encompassing, grand designs so prevalent in modernism (Doll, 1993, p. 162, citing Schwab, 1970/1978a).

The following review of the literature will discuss the relationship between science and education; the relationship between education and the learner; and the relationship between post modernism and literacy, in hopes of providing the practical perspective requested by both Schwab and Doll.
CHAPTER TWO

REVIEW OF THE LITERATURE

An Overview

This review of the literature presents research in three areas of interest:

• linking systems of science to systems of learning: who are we now?
• a look at adult learners: what is their story?
• a postmodern proposal: where are the models?

Linking Systems of Science to Systems of Learning

Transition from Modern to Post-Modern Science

What did it feel like to religiously believe the earth was the center of the universe, only to learn it really revolved around the sun? What did it mean when the mysteries of life began to be defined by mathematics, and when science portioned out the exactness of time, energy, and space? What did it mean to replace personal magic with scientific matter? The field of science no longer remained outside the home, but came in to influence every aspect of life (Doll, 1993). How did a person redefine or align oneself with this new worldview of reality, with a new order have how things worked? Physicist and storyteller, Brian Swimme says "to be human is to be in a story" (1988,
p. 48), and the use of story is fundamental in placing ourselves in the connection of the larger picture. "Only through story can we fully recognize our existence in time" (p. 48). What did modern science do to the identity of the person, and their connection to community, and to the world? What evidence, what new meaning, made it possible for theory to usurp myth? How were we able to let go of the old story, and embrace the new one? "To forget one's story is to go insane," says Swimme (p. 48). "Story provide(s) the central cohesion for each society. Story in this sense is "world-interpretation"-a likely account of the development and nature and value of things in this world" (p. 48). What happens when the story changes, when the rules of life that describes who we are, leaves forever? How are the questions answered, and by whom?

A cosmic creation story is that which satisfies the questions asked by humans fresh out of the womb. As soon as they get here and learn the language, children ask the cosmic questions. Where did everything come from? What is going on? Why are you doing such and such anyway?.. They express an inherent desire to hear their cosmic story. (p. 48).
Modernist science told a modernist story. It is the story that situates our lives and frames our perception of the world. Modern science is constant and predictable, to be fundamental in the "capture of the universe by the right group of mathematical equations" (Swimm, 1988, p. 49). The new story was supposed to last forever.

For over two thousand years, pre-modern societies lived in a world of Forms, of perceived balanced order, of holistic rituals (Campbell, 1991). Justice and virtue were ideals to achieve; excess was to be avoided. Nature defined wisdom and took away wealth through catastrophe. Nature was a formidable force to be obeyed or at least to be respectfully ignored. Great stories of heroes, war, love, and God described a people situated in one cosmic journey (ibid.). Oral history relied on Socratic discourse, creation stories, pagan and tribal myths to show the relationship between people and their world. Personal narrative helped explain the sublime connection to the huge, unanswerable universe.

Then, Copernicus, Kepler, Galileo, with others, started to tell new ways of seeing the world. Science, within a rapid century, began to disclose ways of harnessing Nature, of bending its force towards the benefit of progress, of showing that man was not the
object of creation, but creation itself was a power available to be harnessed by man (Doll, 1993). Secrets of the universe lined up for discovery, and turned society from a garden into a laboratory. Any sense of self-doubt, in believing the collective reality had been wrong for a few thousand years, was transferred by supplicating a personal interrelationship and responsibility with a higher creative force, in exchange for a reliance in what was perceived as a larger, secular, scientific body of control (Bohm, 1988). The questions about our new identity were perhaps not answered, but were exchanged for the pursuit of power of scientific information. How one fit in with nature was replaced with how one controlled the world (Doll, 1993).

The work of Newton and Descartes created a new "mathematical and mechanistic cosmology" (Doll, 1993, p. 20), and launched the industrial technocratic age of power and duality. The metaphor of a finely tuned clock or a well, oiled machine introduced the world to a fascination with systematic, scientific knowledge and rational thought (Bohm, 1988). Cause-effect determinism, along with the belief of attained certainty, and predictability (Doll, 1993), guided the transition into the operating principle of modern science. In his essay,
Postmodern Science and a Postmodern World, David Bohm characterized the mechanistic view of modern science: the world can be fragmentized, can be reduced to basic elements, the particle; these elements are external to each other,

The fundamental nature of each is independent of that of the other...the elements do not grow organically as parts of a whole, but are rather more like parts of a machine whose forms are determined externally. Because the element only interacts mechanically by sort of pushing each other around, the forces of interaction do not affect their inner natures. This view says that eventually everything is reducible to something mechanical (1988, p. 61).

Life was redefined into mechanical systems; systems were structured with terms parallel to scientific nomenclature.

The modern worldview changed to incorporate, as values, the operating principles of efficient, rationalistic, and empiricist scientific laws. Bohm (1988) linked these values to who and what we are as a people, as a society. "The principle path to human happiness was to be in the discovery of these laws, in complying with them, in utilizing them whenever possible for the benefit of
humankind. A total revolution occurred in the way people were aiming to live" (p. 58).

The development of Descartes’ reductionism, to reject all that is not self-evident, and to reduce everything to simple, understandable parts (McCumber, 1997), enhanced the mechanism fragmented model, as a way of presenting a complex situation in a simple, orderly manner. Bohm explained, as cited by Dr. Sam Crowell, “it is inevitable that persons who view the world in this way cannot but continue to perpetuate it. There will be little disposition to consider other views of reality” (Crowell, 1991, p. 31). Crowell continues Bohm’s position that reductionism influenced every aspect of civilization, from “social, political, economic, and psychological” (p. 32), and became embedded in the “early twentieth century model of education” (McCumber, 1997, p. 22). Doll continues to discuss the connection between Descartes’ reductionism with allegiance to mathematical, Euclidean thought in the development of curricular methodology and application (Doll, 1993).

These are the foundations not only of modern science-seen in terms of external forces pushing and pulling—but also of our mechanistic and scientistic curriculum, one we might call
"measured." Machine-oriented curriculum goals lie outside, and are determined prior to, the instructional process; once firmly set, they are driven through the curriculum. The teacher becomes the driver; the student becomes at best a passenger, at worst the object being driven. This mechanical metaphor effectively removes the student from a meaningful interaction (p. 28).

This idea of curriculum being driven by a rational, definitive, well-thought out, contained order, is stylist in what Doll presents as a "closed, nontransformative, linearly developed universe (p. 21). Just as Bohm links scientific laws with values, so too does Doll link our systems of science to our systems of education (Doll, 1993; Crowell, 1991; McCampbell 1997; Bronowski, 1998; Prigogine and Tyler, 1950; Dewey, 1916/1966). The parallel structure found with the modernist curriculum only makes sense: what other alternative could there be (Bohm, 1988)?

Who Are We Now?

The conversation about transition continues with the introduction of quantum physics. Underlying principles of Newtonian mechanics has been questioned by a challenging view that "objectivity" can no longer be achieved.
McCampbell explains how sub-atomic particles are critically disturbed by just looking at them; they are affected by their surrounding context. In order not to influence these particles, studies are performed without empirical observation, creating the reality that one major construct of modern science can be eliminated. He also tells how the use of probability in discussing a particle’s position or velocity, has destroyed the possibility of absolute predictability (1997, p. 30). These new laws of science disturb the order of things, just as it did when the earth was presented as no longer being the center of the universe. Many scientists, such as Einstein rejected new laws, such as the notion the universe was expanding (Swimme, 1988), knowing ultimately of the pending paradigm shift required to adjust into a post-modern worldview. Bohr’s quantum mechanics, and Godel’s “Incompleteness Theorem,” in math, started another rapid shift into a non-linear, non-local, undivided, context-driven reality (McCampbell, p. 31). We are connected and undivided.

Crowell (1991) suggests “simple solutions, predictable laws, and sequential steps seem less and less workable. The view of an ordered universe governed by cause/effect, rational, sequential, predictable, and
immutable laws have been superseded” (p. 5). Yet, Bohm explains most scientists are still mechanistic because quantum mechanical field theories “is a very esoteric part of modern physics,” and the world of these scientists, by nature, is isolated and insular. Experts in other fields have even less access or interest in understanding what it means (Bohm, 1988, p. 64). Within the new sciences of quantum mechanics, it is now accepted that Descartes’ ideas of linear sequencing, cause/effect, and the stability of the universe, is no longer the reality described by science (McC Campbell, 1997). There are, however, still areas of modern life attached to the notion of a packaged, controllable, finite, causal universe comprised of limited matter and energy.

The abandonment of Newtonian mechanics as a paradigm for understanding reality is well advanced. Yet, the metaphysical view of the world it once inspired has proven rather more durable. (Lucas, 1995, p. 165, as cited in Crowell, p. 4)

Once again, the questions of transition from an earlier time returns, as Crowell asks, “what happens when science replaces an old reality with a new one?” (1991, p. 4).
What happens to education's "scientistic curriculum"? Doll suggests,

Education, like other social sciences, is still mired in the modernist, "old" science paradigm, particularly as that paradigm has been shaped by the mechanistic worldview Newton inherited from Descartes. This view of "life-as-a-machine" still dominates the language of curriculum...We need to transcend modernist thinking to go beyond it to a new vision. (Doll, 1989, as cited by Crowell, 1991, p. 6).

We are trapped in a belief system that is no longer responsive to the complexities of our time and is no longer consistent with what we know.

Drawing from the scientific knowledge of the past seventy-five years, and seeing the limitations of using closed mechanical systems as an operational metaphor, Doll's new vision is patterned by providing open, living, process systems: systems coherent with being human (Doll, 1993, p. 58). But what does this mean in relation to learning? How does this assist with the transition from a modernist perspective into a postmodernist environment? More importantly, how can education continue to follow science, since the institutions seem so hierarchical in
nature? Does it matter that they might not be able to respond in a timely manner before the next phase of transition comes out of future science advancement? Is there any benefit of using new sciences as a catalyst to improve on already existing issues unearthed by modern society, as Heshusius (1989) suggests in his observation that "some major theoretical reorientations are occurring in an attempt to correct for some of the inadequacies of existing approaches" (p. 406)? And, why would we want to change a system that provides some sense of safety during these shifting, unstable times? Doll suggests it is because of this shared uncertainty a place of community is established through dialogic communication (Doll, 1993). His suggestion "recognizes the rights of others and eschews the concept of "one best" or "one right" way. It accepts the indeterminacy inherent in complexity and multiple perspectives" (p. 61). Through a living process, an integration is made possible between the personal perspective and the "greater ecological perspective and cosmology" (p. 62). It is a skill-building process: both the personal and the collective are being developed through the same influences, at the same time. Again, the notion of who we are in relation to the cosmos is a recursive quest in creating intentions of understanding.
Erich Jantsch (1975, as cited in Crowell, 1991), believes there is a “need to construct new systems of thought that are consistent with our growing understanding of the nature of reality” (p. 8). It is about participating in the design of a more consistent worldview in spite of our fears. It is about engaging as an active participant in the development of new modes of practice, in spite of the lack of absolute standards. We are co-creators of the world we inhabit; we are not isolated players detached from the significance of the whole.

In the last social-cultural-scientific transition, it was the experts, the scientists, and the specialists who drafted and articulated changing knowledge. Units of information were portioned out, and assimilated, into policies, procedures, and curriculum. Information was issued from the top down (Wiggins, 1998), to be assimilated by a receiving population. In looking at developing processes to enter the next transition of post modernism, a conversation is required about where are we with our skills in dealing with complexity theory. How can we establish a literacy, a competency in developing our new identities? Thomas Del Prete (2002), in his essay on Thomas Merton’s, *Spirituality of Education*, suggests
A post-modern reaction against the modernist or Cartesian worldview might (be) that our identities are constructed in relation to social and cultural environments, or co-constructed rather than individually determined. Identity in this sense is highly contextualized, as well as fluid and situational. It can have a profound impact on our lives, giving us a sense of place and meaning in relations to others (p. 168).

We can only know ourselves through a situated place and time; our identity is related to the story of the cosmos.

In his essay, The Spiritual Journey of a Taoist Educator, Crowell (2002) brings to light that “both teaching and learning are part of our very humanity. They must somehow address who we are, not just what we know. Knowing cannot be isolated from a sense of self or from a sense of meaning and purpose” (p. 14). Bohm provides a necessary transition for understanding the difference between the modernist world, and the emerging post-modern landscape. Reality in the Newtonian/Descartes model is comprised of energy and matter. The universe is finite. One day, Time will stop. Predictability is the goal, especially in recreating science. Conversely, reality in quantum mechanics shows the universe is ever-changing,
never-ending, always expanding. Creativity is constant, and only comes out of chaos. Chaos is self-organizing; it is predictably unpredictable. Bohm says the goal is to have a once-in-a-lifetime experience, one that cannot be replicated. This reality model is comprised of the previous elements of energy, matter, but now the third element of meaning is acknowledged as mandatory. Like Bohr’s particle being influenced by context, so too is everything, everyone, influenced by context, by community, by meaning (1988). How can this context, community, and meaning be used to develop a response to post-modernism in education? Summarizing Toulmin (1982), we do not know the definition of this new post-modern world, we only know that the world we thought was real has “just-now-ceased-to-be” (p. 254). We are caught in the paradox of our own indeterminate nature.

It must have been a very unsettling time back when the earth was discovered to no longer be the center of the universe. It has been said it is a very unsettling time right now (Doll, 1993), as we discover the universe does not have a center. Learning to create a new cosmic story requires new skills, not just of reasoning, but also of faith, of acceptance, of human resilience. This time around, the new story requires an active interrelationship
between the participant, and the surrounding context. Perigonine, as cited by Doll, says this combination is a self-organizing, integral element of influence in the design of things. And, Bohr, in his "ability to translate and make relevant to everybody his specific language of physics" (Del Prete, 2002, p. 183), suggests we return to our context, to our surrounding community of Nature. Our systems of science are still our systems of learning. Who are we now? Perhaps the answer is found in the meaning, in the story. "What a shock it has been to have story reappear, and this time right in the very center of the mathematical sciences!" (Swimme, 1988, p. 48). In returning to the beginning, the questions are again asked: What did modern science do to the identity of the person, and to their connection to community, and to the world? What evidence, what new meaning, will make it possible for myth to usurp theory? How are we able to let go of the old story, and embrace the new one? "To forget one’s story is to go insane," says Swimme (p. 48). We are energy, matter, and meaning. We are creators of a new story -- a story that we have forgotten and a story we have yet to discover.

The following section will develop the story of the adult learner, and will begin to look at their
relationship with literacy: the elements of making meaning, and making story.

A Look at Adult Learners: What is Their Story

One Group of Adult Learners

The National Adult Literacy Survey (NALS), produced by the National Institute for Literacy (NIFL), revealed that approximately 46% of US adults had limited ability to perform a variety of real-world literacy tasks (www.nifl.gov, 1993).

The NALS study conducted assessments on randomly selected learners at adult education centers throughout Texas, Tennessee, New York, Rhode Island, Connecticut, Massachusetts, and New Hampshire. The assessment tests conducted in the following areas included:

- Phonemic awareness
- Word analysis - phonics
- Reading rate
- Word recognition - sight words
- Fluency
- Spelling
- Comprehension
- Background knowledge/schema
- Word meaning

Less than 9% of all participants (8.9%) could pass the reading section of the GED exam. The average age in this top profile, Profile 1 pattern, was 27.4, with the average completed high school grade of 10.3. Average
reading rate was 160 words per minutes. Many in this group are probably able to read with comprehension beyond high school level due to their diagnostic assessments of reading (DAR) levels of 11/12 reading comprehension level. 92% are native speakers of English (NSE), having also been born in the United States. 50% of the participants had repeated one or more grades in school.

On the other end of the scale, the lowest group, Profile 10 patterns, was considered beginners with rate impairment. The average age was 38, with the average completed high school grade of 8.2. Oral reading rate was 87 words per minute. 100% are native speakers of English (NSE). 53% of the participants had repeated one or more grades in school. While Profile 1 could read and comprehend 11/12 grade level, Profile 10 averaged 1.6 to 3.3 in DAR assessments.

The study states “Most are in adult education classes just long enough to brush up on their skills in preparation for the GED exam or to qualify for a high school equivalency certificate” (www.nifl.gov/readingprofiles).

Learners in Profile 1 cite “more education” and “getting a better job” as their reasons for taking adult education classes. Most (63%) plan to continue their
education at area colleges. Because most are headed for further education, either community college or trade schools, they will benefit from instruction in comprehension strategies, vocabulary acquisition, and continued attention to decoding/encoding (spelling) skills. "When asked how many hours a week they read any reading materials for pleasure (newspapers, magazines, etc.), 18% reported less than 1 hour/week; 38% read between 1 and 3 hours/week. About half of this group is not reading very much at all, and what they are reading is not challenging their present word knowledge. So, even though they are good readers, their outside reading is not doing much to increase their vocabulary. There was no discussion or indication to any writing skills or relationship with print. (www.nifl.gov/readingprofiles).

Profile 10, analysis show this group of readers has limited oral as well as written language skills. The report states, "the average GE on the DAR word meaning subtest, "Tell me what X means," is low even though it is higher than scores on the other components. Perhaps they know more words, but (they) do not know them well enough to express their basic meanings, or perhaps they have an expressive language difficulty" (www.nifl.gov/readingprofiles). In phonology, the readers
are not able to manipulate sounds, nor do they know the 21 consonant sounds. The group average on the TAAS indicates only first level competence with phoneme deletion tasks. None are successful with all 13 consonant deletion tasks. Many cannot consistently delete the first and last consonant in a word. Only 10% know all consonant sounds. The average for the group is 6 out of the 21.

Comprehension for this Profile was higher through using their listening skills. They understood more when they listened to someone telling them the text, than they understood when they read the text. The proposed plan of study strongly focuses on decoding skills: trying to understand the relationship between chunks of words with the meaning of sounds, becoming familiar with blending, basically strengthening their phonemic awareness and increasing their sight words. While this group is making efforts towards improving their literacy skills, it is unknown to whether their future plans include either higher learning or trade schools. At this point, they are still unable to prepare or pass the GED.

What is the meaning of their story? An adult population of 100% English speakers, spanning eight states, with an average age of 32, is attending adult education centers to learn how to increase their literacy
skills. The strategies used are strategies of reading recovery. One group, Profile 1, can read proficiently, but chooses not to read as part of their weekly or monthly patterns. They participate with very little writing; communication through writing is almost non-existent. The relationship with text is one of instructional, not of behavioral, nor communicational. The second group is considered to have impaired literacy skills with reading, and shows a stronger connection to meaning through their listening skills. The literacy they have acquired corresponds to their ability to receive information from an outside source by active listening. They currently do not have the literacy skills to develop or secure knowledge using their own cognitive resources of reading, writing or speaking. Both groups generate very little reciprocal literacy: they do not participate in writing or speaking as part of developing literacy. The methods of instruction at the adult ed centers are the same methods of reading recovery employed at the K - 12 level. In view of post-modern considerations, it is tempting to suggest a causal-effect condition is present. The issue of meaning-making creates more questions. Perhaps the employment of meaning is incorporated within the study’s proposed literacy strategies, but this study was not
constructed in a way to share this information, which in itself suggests the use of meaning was not considered as important as citing the use of word attack or decoding strategies. Decoding advocate, Marilyn Adams, in her book, *Beginning to Read*, says, "Although instructional principles do not change for older students, instructional practice must. Vocationally oriented reading instruction may be best conducted with job materials and manuals" (p. 7). While this discussion in not intended to feature the differences between the decoding and the sociopsycholinguistic camps in language arts (Adams, 1994; Goodman, 1979), it is intended to raise awareness towards the continuance of mechanistic curriculum. Adams' attempt to contextualize reading material is still based on parts to the whole philosophy of modern science. Specifically for consideration, is the notion that closed systems of curriculum create passive receivers of portioned information: learners are first trained in ways of ingesting messages, but they are not taught to develop their own expressive responsibilities. The focus on reading first, as opposed to writing, is one element of literacy that requires its own conversation. Establishing a relationship with one's own literacy through personal meaning and developing one's story to share with others,
in community, encourages an active participant, one that learns to have a point of view. How does this strategy for literacy differ in focus and in results, when the emphasis is on writing, as opposed to reading recovery strategies?

The NIFL maintains their study represents, and is indicative of, reading and writing skills for almost one half the population of the United States. The return of Heshusius’ (1989) observation that "some major theoretical reorientations are occurring in an attempt to correct for some of the inadequacies of existing approaches (p. 408), comes to mind, as well as Bohr’s work that features the particle being influenced by the surrounding context. If we really want a different outcome, if we really want to achieve a higher level of literacy within our citizenry, why do we still use the same methods of teaching literacy that we have used in creating illiteracy?

One Learner: the Beginning Use of Story

On a more regional level, in a conversation with the English department chair, at a southern California community college, it was shared that the average entrance reading-writing grade level of a first year learner attending their institute is 8.5. The course of comprehensive study includes three levels of basic writing and reading classes, each a semester long each taught with
a scripted text, and workbook. Each class is offered as a once a week at night, as a five-hour section, or it meets twice a week for two and half-hours during the day. Writing skills are taught separate from reading skills. This means a learner in a reading class works on phonics and phonemic awareness, develops sight words and spelling, and performs multiple choice tests for comprehension. There are practice exercises at the end of each text section for testing and assessment. In the writing class, the strategies used are journal entries, paragraph development, filling out job applications, writing shopping lists, creating a narrative from the shopping list, and writing summaries from oral discussion. Essay development is introduced in the higher functioning, later scheduled transfer classes. It is important to teach the two literacy skills separately. The units are kept small, and are portioned by content, with the idea each concept can be individualized, and will be absorbed in isolation. A successful student is expected to post-test at a grade level of 10. Any time a learner can test out at grade level 10, by the end of a semester, they can move into the traditional first year composition class. The goal is to advance the learner into a CSU/UC credit transfer English composition class, so concurrent enrollment into a
skill-based program, such as nursing or bookkeeping, can be achieved. The demographics of this population discussed is a white, native English language speaker, thirty to forty-year old woman, single income parent, with two or more minimal wage jobs, with an average of three children. One reason they attend the college is because of the locality and of the close proximity to the learner’s residence: they can use rapid transit. The learners are here to get a better job: they want to learn to earn. While the department chair did not know the completion or the matriculation rates, she did say the college schedules four to ten sections per semester, of both the reading and the writing classes. Each section has anywhere from twenty to thirty students.

The department chair stated she thought the classes were successful because they were comprehensive in reading recovery skills. Data on how many learners progressed into nursing or bookkeeping was not made available.

In speaking with one of the instructors of the reading class, it was expressed that while a level of frustration often returned with issues of comprehension and articulation, there was more often forward motion in social skills. The students, predictably always women, enjoyed the socialization and the support group. The
hidden value found within these classes was a sense of normalcy, a place of safe, social community. The learners were paired or grouped in a buddy system. As a team, they developed communication skills and participated in a place of advancing their identity. The instructor mentioned the level of care expressed between the women increased as they achieved success in moving through the text. As a sense of unity grew, some women brought in clothes and food to share with those in need. Often one buddy might provide childcare for her teammate. These types of experiences are meaning-making, and are perhaps the real literacy found within these classes.

To find meaning, this story might show a divorced, high school drop-out woman, thirty years old, tired of working twelve hours for less than $80 a day. She supports her two children in middle school; her car sometimes works. She thinks she will improve her life if she goes back to school at the community college, where in two to three years she can become a nurse and make a beginning annual salary of forty-eight thousand dollars. She registers for school, only to find out she needs her GED to enter the nursing program. She is too late to take the GED, and besides, she’s fearful about her test-taking skills, having never been successful on them in the past.
She can take classes to satisfy the GED requirement, but needs somewhere between two and four semesters of both basic reading and writing classes, for a commitment of an extra ten hours a week in her already impacted schedule. Once she passes this level, she can register for another semester of first year English, which will allow her to begin her nursing training. Somewhere along this path, she finds out the nursing program is not the registered nursing degree that she thought it that was, but is instead, a licensed vocational nursing program. She accepts the idea she probably won’t work in a hospital making a higher salary, but she will instead have to work in someplace like an assisted care facility for the elderly. She’s not quite sure how much she will earn, but she thinks it has to be more than what she is earning cleaning houses. During the year of school, she has to still maintain her multiple cleaning jobs, electing to take the five hour night classes, which means she leaves her children unattended for two nights each week, one night for reading, and one night for writing. She likes the fact she can say she is in college: her identity is changing for the better, but she is physically and emotionally tired from the long weeks. She still hasn’t started the nursing program. The best part of her school
experience is her new friends. They have helped her in ways even her family can't provide. At least while in school, she has a community of support, one which she knows will evaporate if she chooses to leave. If she drops out prior to earning her LVN, she will rationalize that her efforts have made her a better person. At least she might have her GED. But what will she do for the rest of her life? Her conditions will be almost the same as they were before she went to school, yet she will be another year older, and her children might have matured in ways she doesn't want to think about, due to her nightly absence. She is not sure she is willing or able to complete her educational goal at this time. But, as she returns again and again to her dilemma, what is her alternative?

This is a story that continues in every one of her classmates, as well as in the other adult learners presented in the previous NIFL study. The methods used in her reading and writing classes are recovery strategies. These strategies are presented as disconnected non-relational units of information; they are not contextualized within the system they intend to serve. The content is fragmented and mechanistic; it is reduced to the smallest possible unit, in hopes the learner will
eventually understand. There is also a parallel link here, as a metaphor for educators. What kind of a recovery system have we created? How is the smallest possible unit going to help this woman in her literacy? Perhaps there is a reason why reductionism has not worked in education. It would be an easy transition at this time into critical pedagogy (McLaren, 1998), but that conversation is not mine. It is already understood how modern science constructs are embedded in curriculum. My questions do not focus on how or why knowledge gets constructed the way it does, but instead I look toward processes located in the new sciences as new watermarks in shaping literacy. While it could be said each learner has a story attached to his or her process of literacy, I prefer to see the process of story, the making of meaning, as the only possible form of literacy available to the learner. What would education systems look like if they took into consideration the learner’s contextualized story? What would Bohr, Bohm, Doll, Crowell, or Swimme say to change this system? What will energy, matter, and meaning provide as systems of literacy reflects science?

A Story about Adult Literacy

The Council for Advancement of Adult Literacy (CAAL) issued a report (www.caalusa.org), in 2003 where they
examined the role and potential of community colleges in adult education and literacy. The information used to compile their findings was collected over twenty years, and included accumulated research and development work in adult assessment, instruction, and evaluation, collected from twenty-eight states. In this particular report, I looked at specific topographical data in assessing needs and services for adult basic education programs (ABE) in five states, during 2001-02. In California, the population of ABE learners was 526,955, with only 66,556 enrolled in a community college; the balance were enrolled in public adult schools, funded by the California Department of Education. The largest enrollment was found in the 25 - 44 age group, with 52.9% of community college learners being in this age range, and 49.8 of public adult schools also of the same age. With respect to diversity, the composition for attending community colleges was: Hispanics 66.5%; Whites 11.8%; Blacks 1.6%.

Correspondingly, the composition for attending public adult schools was: Hispanics 63.4%; Whites 10.4%; and Blacks 5%. It was noted the distribution of Blacks was higher in public adult schools because of the high attendance of GED classes in correctional programs. Within California, community colleges served a relatively low
percentage of learners at the ABE beginning levels and a higher percentage at the ABE intermediate high level, compared to other providers. A preliminary analysis, using California data, shows that those learners enrolled in community colleges with a primary or secondary goal of post secondary education are more likely to report the learner result of entrance into college. California community colleges showed a greater level completion rate that other providers at each educational functioning level, and also provided significantly higher hours of instruction compared to other states (15 to 20 hours of weekly instruction). One half of learners registered at community colleges in California are unemployed, and are learning to earn; the other half are employed, but are learning to earn more.

The meaning of this story is that half a million people a year, between the ages 25 and 44, who live in California, are trying to get their GED. The majority of these learners are Hispanics, and they attend a California Department of Education funded program. Most do not complete their educational goals. What do people do when they leave school, once again with out their GED? We live in a system where the goal of a GED, or an associated arts degree, or a technical certificate, or a bachelors or a
masters, or a doctorate degree will not diminish. The
pressure for learners to achieve one or more will not go
away. Besides math, we know the primary strategies for
adult basic education are based in reading recovery. Once
the learner moves into a community college setting, the
chances increase for them to develop skills extending into
writing, and social skills. But until then, ABE classes
are structured in similar patterns as discussed in the
NIPL study. The areas of language development, analysis
and critical thinking are not presented until English 101.
Many learners never get that far. What does this mean for
us as a population of learners?

In terms of demand and need for instructors to teach
these recovery classes, this graduate student has been
personally contacted by five different community colleges
with the prospects of adjunct teaching. In a very casual
perusal of calling seven adult education centers
throughout Los Angeles, Riverside, and San Bernardino
counties, all seven had four or more vacancies for reading
recovery instructors. The reentry age towards literacy is
the older student. It seems learners are returning to
school again, and again, trying to reach the next level.
It seems the majority of people could be recycling around
educational institutions: more of us will keep teaching, as more of us keep learning.

A Story about Adult Literacy at the University

After looking at both the adult learning centers, and the community colleges, I decided to see if there were any literacy issues at the university level. Having team-taught the graduate writing composition, EDUC 306, for two quarters at CSUSB, I have a small view into a large topic. I’m dealing with the opposite end of the literacy issue. By the time learners complete their undergraduate program, and begin their graduate studies, they are suppose to have matured in reading, writing, speaking, critical thinking, and rhetoric skills. It might even be assumed there is a familiar relationship with literacy, one of a comfortable discourse. But, before I present my qualitative findings on this phase of the learners’ literacy, I’d like to discuss the beginning track of a first year or transfer student.

In a conversation with Cal-State San Bernardino’s English department, it was explained to me that while most students are encouraged to develop their literacy skills at a community college, it seems there is still a strong number of students requiring assistance with weak language arts. Some are bi-lingual language learners, some are
English for Speakers of Other Languages, and some are native, English language speakers. Some are transfer students; some are students with test scores keeping them out of first year English. Regardless, there are three levels of pre-English 101; when I referred to them as recovery classes, I was corrected and told they are called remedial classes. The remedial classes are two levels of English 85 (A) and (B), and one level of English 95, which is the precursor to English 101. It was interesting to find out CSUSB has recently implemented a program out of Arizona State University, called Stretch. I’ll discuss this program later, when I present literacy options. Stretch, at CSUSB, takes level 85 (A) and (B), and teaches the material as a cohort, with the same instructor for two quarters. The program started in the fall 2004, so the first cohort has not yet completed the two-quarter section. Last quarter, the university offered twenty-nine (29) sections of 85 (A), and in a commitment to Stretch, they offered twenty-nine (29) sections of 85 (B) this winter quarter 2005. Each section has a minimum of twenty students. When the students progress out of 85 (B), they have to register for English 95, they cannot go directly into English 101. Currently, there are two sections of English 95 offered, making thirty-one sections of remedial
English classes available on main campus. I’m told there is a high demand for more sections of English 95, but students were told they had to wait to register in a future quarter, due to budget restrictions. With 580 students matriculating out of the Stretch program, in Spring 2005 into English 95, there seems to be either a healthy teaching market in the near future for this class, or a bottle-neck in the making.

Back at the other end, in the graduate writing composition class there is another situation where learners are sometimes stuck in a different type of bottleneck. Undergraduates cannot complete their program without satisfying a writing requirement; for many this means passing the 306 composition class. It is also one of the first classes required at the beginning of any graduate program. There are many learners that can’t get out of one program or get into another until this requirement is met. Many are teachers finishing their credentials, too. Regardless, the range of writing skills is wide. Most learners are reluctant at best, or fearful and angry at worst, in just having to take the class. It is not a class they want to take. I tell them they are writers first, and students second. I don’t know if they like the responsibility. I survey the class in the
beginning to have them share what their relationship is with writing. So far, there has only been three learners in each class of twenty-five, that has said they like to write, and they consider themselves to be good writers. Most responses include they hate writing because they feel they are not strong writers. A science teacher said he was divorced from his writing. Occasionally, someone voices the desire to be published, to one day be good enough to go public with their thoughts. Many learners want to become better writers, but they are not metacognitive of what they need to do to improve their own work. They also don’t see what writers do in the essays they read. Structure, form, operating metaphors, contextualizing, transitions, thought process, word choice, stylistic devices, and editing, are areas of development we teach not only towards improving their own writing, but also to improve their reading, too. It is interesting to reflect on similar, yet opposite issues I experienced when teaching reading that I now experience in teaching writing. In reading, many of my strategies depended on engaging the reader in writing exercises (Christensen, 2000; Graves, 1994; Wiggins, 1998; Parker & Riley, 2000; Cameron, 1994). These are strategies taught in the reading/language arts master program. The curriculum is
heavily invested in contextualized schema-based material for working with developing readers. Now, in the composition class, we see the need to teach "reading closely." We found ourselves teaching analysis and explicating texts before the class could see for themselves what we were talking about. Otherwise, they didn't have a clue. The writer, as I refer to the learners in the composition class, learns to identify different patterns in the essays. Once the writer can identify and describe, say the structure used by the author in the text, they can then write their own piece using a facsimile of the same structure. One night, we had twenty-five mini Alice Walker essays. Someone, during the first nights of analysis, will bravely ask the question, “Do all writers think like this? Do they always build around structure, form, stylistic device?” “Yes, it is intentional,” I tell them. “Why didn’t I learn this before?” I don’t know what to tell them, since I don’t know why or when they didn’t learn these skills. Many of them say they take home and teach their high school son or daughter the skills we discuss in class.

In the beginning of the composition classes, the largest issue to address in the writing samples, is the flatness; the sentences are adequate, yet there is no
story within the page. Personal depth is missing. The willingness to pull together original ideas and to present them, with supportive, textual examples can be difficult. It doesn’t seem to be about ability, but rather it is about trust and exposure. The issue of not wanting to be wrong erodes confidence, as it keeps personal style on the safe side of risk. Another challenging assignment is to take a simple reflective question, found at the end of their reading, and write an essay as an answer. Many write a response similar to how they would answer a question on a test. In fact, when given the choice, one class preferred to select a more difficult question, if they could just respond to it in an answer format, as opposed to writing an essay on an easier question. Developing and sharing a point of view, as opposed to performing a right answer is a huge concern for the pedagogy of composition. The act of developing meaning, of telling their story is a practice that creates much confusion and uncertainty. The process usually requires several attempts of community building in groups for the learner to finally settle down to develop their own original thinking.

What operating system do we see at work here? These are the best learners. Why are their expressive skills so weak? Why are they so reluctant to share their point of
view? Is it enough to successfully decode reading material to only overlook the extended metaphor? What other skills of analysis and creative thinking are underdeveloped? What does this indicate about adult literacy?

For many, the element of time needs to be longer than ten weeks for voice and for architecture to develop in written expression. For some, the issue of literacy will never include composition, rhetoric, or analysis. For others, the issue of just getting through is enough.

Starting in English 85 (A) and moving all the way through the graduate writing requirement, this process provides the adult learner with many opportunities to develop a deeper relationship with literacy. The points I'd like to leave for consideration and further conversation with the reader surround the issue of why is there even a need for remedial English classes, and why is there even a separate writing requirement for graduation? Why do we have literacy skills separate from content? How can the practice of literacy be incorporated as an integral part of all subject matter? What has to happen for learners to be able to comprehend what they read, and be willing to write their point of view? What part of reductionism are we holding onto and why? What don't we understand?
The Process of This Story

This discourse has presented examples of literacy systems for adult learners. Stories have been shared about:

- learners who dropped out of either 7th grade, or 10th grade, Profile 1 or Profile 10, who are enrolled at adult education centers for GED preparation, who have literacy skills representative of 46% of the population of the United States;

- half a million adult learners a year in California who are enrolled in Department of Education classes, who may never matriculate into community college, with the majority never completing their GED;

- learners who are single working adult moms enrolled in literacy recovery classes, who are qualifying for community college vocational programs;

- traditional learners who completed high school, and then went to community college or even directly into university undergraduate programs who are now in remedial English classes;
or those older learners, who have an undergraduate degree and have returned to credential master programs for job advancement in education who now after six years of higher learning, have to complete a competency writing class.

Whether adult literacy is experienced within recovery programs; or in remedial classes; or in graduate composition classes, the meaning of the story shows the practice of separation is deeply embedded within literacy programs. Whether the adult learner is working toward a GED or a master’s degree, the system of presenting literacy curriculum is incongruent with personal meaning and is disturbing. It is shown that great anxiety surrounds not only the activities of literacy in the classroom, but also anxiety is recognized in daily activities as the learner restructures their life to achieve literacy in the educational system. The learner is separated from the content of literacy; hence the activities of literacy, such as reading, writing, and analysis, are separated by the learner away from daily life. This is experienced not only by the high school dropouts, but also by the university graduate students. Based on methods of instruction for marginalized learners,
it is tempting to say the reductionist systems of modern science have turned every student into a student at risk.

These examples also indicate the failure of the educational processes used in delivering literacy skills. Learners continue to enroll and continue to receive models of curriculum that do not retained their interests, their commitment, their attention, nor has it captured their hearts. The scientific model has been a standard we have aspired to maintain. Yet, as much as we have provided numerous opportunities for this model to administer literacy, we are now at a place of practical disillusion. Similar analysis is expressed in Jerome Bruner’s essay “Two Modes of Thought”

when we hold up the ideal of “good” teaching, or “good” thinking, or “good” research, “we are espousing the scientific, logical, rational...strong as this mode is, and as much as it has accomplished, it still lacks heart...Bruner says it is “heartless,” seeking to transcend the particular by higher and higher reaching for abstraction. This mode disclaims in principle any explanatory value at all where the particular is concerned. It is of course, the particular, the experiential, the personal which
story brings into play. (1986, cited by Doll, 2003)

Perhaps we should stop asking people to "work" on their degree, but instead "process" their literacy.

The beginning of this section started out with research data and analysis. The structure progressed into further studies, and introduced meaning and story. As the text developed, more personal meaning and narrative was included, fewer citations occurred, less quotes were used. Some inferences were directed towards the material, and first person experiences were buttressed into the argument. This is an example of building a narrative story on personal meaning. This is a story about the human condition. Story or narrative Bruner says, "is built upon concern for the human condition," l'affaire humaine. (Doll, 2003)

This section was intentionally built in this manner as an example of discussing literacy through story. This is an entrée into adult literacy through a postmodern perspective.

The next section of the literature will look at the constructs of post modernism curriculum and see where the applications are being used.
A Post Modern Proposal

Where are the Models?

Much of what has been expressed as concerns in the process of education (the separateness, the reductive approach, the non-supportive systems), is perhaps preventable when education is found in the ideas presented by William Doll. His work in post modern curriculum has been a reference for educators as they expand the role of learning into areas of community-building. McNabb reminds us it takes a village to raise a child. But today’s villages, comprised of generational segregation, dual-career parent, single-parent households, and an influx of information-driven economy “Have produced massive changes in American society. As a result, educational leaders are calling for systemic reform of educational practices and policies to address the needs of children growing up in fragmented communities” (tandlwww@contact.ncrel.org).

Communities as Models

Emerging models are encouraged to reflect multicultural, non-mainstream (dominate culture), cooperative learning communities, where “learners are encouraged to construct meaning grounded in relationships of self to others, self to knowledge, self to nature
(McNabb, 2002). The roles of responsibilities between parents, teachers, and present-day communities are shifting in response to children’s unmet needs. McNabb, (citing Boyer, 1995), states that it would be unethical for educators not to do everything possible to bring stability into the lives of children through helping restructure relationship. She calls for an integrative system between parent, “family, and community involvement with teacher and students.” Doll (1993) suggests teachers and students can create a sense of determinacy, of unity by creating curriculum in “conjoint interaction with one another”

Determinacy comes through the curriculum development process each local situation takes as the heart of its educational process. It is this curriculum development process via recursive reflection-taking the consequences of past actions as the problematic for future one-that establishes the attitudes, values, and sense of community our society so desperately needs. (p. 163).

The goal of restructuring curriculum while restructuring community is an aspect of culturally responsive education.
Culturally responsive schools exhibit the following traits:

- The curriculum content is inclusive, meaning it reflects the cultural, ethnic, and gender diversity of society and the world.
- Instructional and assessment practices build on the student's prior knowledge, culture, and language.
- Classroom practices stimulate students to construct knowledge, make meaning, and examine cultural biases and assumptions.
- Schoolwide beliefs and practices foster understanding and respect for cultural diversity, and celebrate the contributions of diverse groups.
- School programs and instructional practices draw from and integrate community and family language and culture, and help families and communities to support the students' academic success.

(Adapted from Strategic Teaching and Reading Project Guidebook, NCREL, 1995).

Working together in fulfilling these types of interrelational connections develops the practice of
Doll's foundational skills of dialogue, reflection, self-organization, metaphor, story, authority, unity, and most of all, engagement or responsibility. "In an open-ended educational system, social interaction and Socratic dialogue are key curricular characteristics facilitating learning (Slattery, 1995). As McNabb cites Doll, "Precise behavioral objectives that predetermine outcomes and foster low-order thinking processes are less important in the open-ended educational system. The latter fosters divergent thinking and authentic, self-directed exploration of topics and issues associated with interdisciplinary content" (tandlwww@contact.ncrel.org).

Educator David Orr comments on this condition of student thought process when he says, "One result of formal education is that students graduate without learning how to think in whole systems, how to find connections, how to ask big questions, and how to separate the trivial from the important. Now more than ever, however, we need people who think broadly and who understand systems, connections, patterns, and root causes. (1992, as cited in All of a Place; p. 3).

In working towards a new system of connected learning interdisciplinary content, and understanding patterns, the Bay Area School Reform Collaborative asked the question
what if schools, families and communities were addressed as the complex, interrelated and interdependent social systems that they are? Would the needs of children and communities be better served if addressed in a more integrated fashion? "Education impacts on all aspects of life and every person in the community is at some time a participant in the educational process. It is through this shared educational experience that the community can most easily find its common ground." The idea of an interrelational story brings to light many of the unsolved, yet critical concerns vying for attention in our current system. Awareness and its corresponding frustration is surfacing in response to the elusive nature of identifying and implementing lasting solutions to the need for change. "The piecemeal approach that characterizes school reform has frequently resulted in initiatives working at cross-purposes, which results in increase pressure on educators in leading de facto changes in pedagogy and content matter" (Lieberman, 2001). People feel the need to change and are looking outside of the educational system for help in providing cohesive restructuring for learning. Sometimes looking at what you don't have makes it easier to decide what is important.
Lieberman (2003) identifies piecemeal reforms as depriving students of opportunities to:

- develop deep understanding of content and skills through interdisciplinary studies;
- acquire higher level problem-solving skill through real-world problem solving;
- explore and understand the world around them through hands-on and minds-on experiences.
- discover the complex interactions among natural and social systems;
- build the teamwork skills needed to succeed in adulthood;
- capitalize on diverse learning styles using individualized approaches to learning; and
- learn to live in harmony with the world around them.

The Four "R's"

These elements of citizenry remind us of a classical framework, one which Crowell suggests is possible through the reenchantment of education (1997). One which Doll suggest is possible though a constructive world view and a constructive agenda of post modern science. In drawing from science, Doll presents a matrix of criteria for a
curriculum designed to foster the achievement of what Lieberman had identified as missing from our education. In asking "What criteria might we use to evaluate the quality of curriculum generated not predefined, indeterminate yet bounded, exploring the fascinating imaginative real born of God’s laughter, and made up of an ever-increasing net work of local universalities?" (Doll, 1993, p. 176), Doll provides the four “R’s” of Richness, Recursion, Relations, and Rigor towards this purpose. Richness or the curriculum’s depth and its multiple possibilities or interpretations creates a sense of deep meaning and experience.

Recursion blends reflection, iteration, skill-development, and refinement of thought-building. “This is also the way one produces a sense of self, through reflective interaction with the environment, with others, with a culture. It is the heart of transformative curriculum (p. 178).

Relations is both pedagogical and cultural, and connects process to the cosmological and to the community, and is the place where curriculum is embedded.

Rigor, is not just about making something harder, but making it deeper. It requires a belief in oneself that the answer doesn’t have to be right, so much as it has to be
authentic. This sense of indeterminacy becomes determinable through experience and practice. It helps a learner to believe in their point of view, it helps them to write papers with story, instead of flatness. Add to this personal meaning, the narrative or interpretation and watch the separateness between literacy and self evolve into expressive discourse.

"It is easy to see transformation as no more that anti-measurement or nonmeasurement. Here, transformation becomes not a true alternative but yet another variation on the very thing it tries to replace (Doll, 1993, p. 181). But, in combining the above elements, in concert with Bohm’s context driven, internal changes, as well as community-rich social pedagogy, the reach of literacy will be higher, the structure of new systems can be deeper. Again, I return to Erich Jantsch (1975, as cited in Crowell, 1991), when he says there is a “need to construct new systems of thought that are consistent with our growing understanding of the nature of reality” (p. 8). It is about participating, in the design of a more consistent worldview in spite of our fears. Heuristic, transformative, open-systems, interconnected, interrelational are all part of our growing understanding and our growing literacy.
CHAPTER THREE
LITERACY DEVELOPMENT

Why Should we Change?

This section of a thesis usually conveys the methodology used in the research study, or it describes the process of building a project. In this case, where process is the project, where the weaving of story, meaning, and narrative meet the nature of cosmological changes, this section will provide analysis into the personal and the context-driven, non-locality of literacy development and why we should incorporate post modern science constructs into new education systems.

The methodology of how this discussion emerged is designed from the partnering of Doll's four "R's," and Bohm's quantum physics where, as expressed earlier, the world is fundamentally context-driven in which there is constant internal change; in which the whole organizes the parts; and at the most basic level of matter this is an interdependent nonlocality (Bohm, 1988). These changes in science can also be the changes used in developing literacy systems.

In searching for a rescue-remedy for adult learners to finally find their way into literacy, I located many
independent examples across this country that show me how others create parallel systems to fit their regional needs. Excerpts from conversations and readings include:

- Over the past decade, educators from New England to Alaska have been relocating the curriculum away from generic texts to the particularities of their own communities and regions. This process has been accompanied by the adoption of instructional practices that draw heavily on student initiative and responsibility as well as talent and expertise of adults outside the school" (Smith, 2000).

- (Alternative) and place-based education provides students with opportunities to connect with themselves, their community, and their local environment through hand-on, real-world learning experiences (Project Bay Area).

- Using chaos and the making of meaning, a community college instructor encourages her students to write beautiful and well-organize prose only by combining personal and public discourse (Berthoff, 1993).
Arizona State University's Stretch Program helps at-risk students—those with the lowest test scores—become the best achievers with the highest completion scores. Over two semester, students compose half-again as many papers as regular ENG 101 students write, and so receive much more writing experience than their counterparts. The need for extra time was factored into building real writing skills.

Writing across Curriculum is also used at ASU to develop strategies for using writing to construct meaning, with the goal of not creating finished products, but rather to learn the process of literacy.

These are just a few examples of re-framing literacy systems. There are other aspects worth discussing, such as bell hook's use of community and love; Doll's use of spirit or Mysterium Tremendum; Crowell's practice of compassionate teaching, or as it is often referred to, as the spirituality of teaching; and Chinn's teacher education program where teachers are cultural translators and community-builders. A brief review of Chinn's program is provided later in this chapter, as support for the process of methodology.
All of these are ways to own post modern constructs on a local level. In my own work, using these constructs, I have been able to create literacy projects for community arts centers, adult education centers, adult creative process programs, university writing classes, corporate and legislative focus groups. All are different in practice, but all are universal in desire and willingness.

To augment this chapter with field research and applied methodology, I have included three systems of curriculum for consideration. Again, these systems reflect a literacy of place, and require the patterning of relationships and context as primary elements both in the pedagogy and in the analysis.

The first example is a writing matrix with the emphasis on writing for the adult learner in college. The matrix is influenced by the work of Linda Christiansen, Sam Crowell, Michael Optiz, Pauline Chinn, and Peter McLaren. There is a separate Reference for this section, and it is provided as Appendix A.

The second example is a brief look into Pauline Chinn’s teacher education program, at the University of Hawaii. A longer interview and analysis is also provided for further study in Appendix D.
The third and final example is looking at Marni Binder’s work, out of Toronto, Canada. While her work focuses on the early learner, much of Binder’s research is in process-based systems, and her efforts can be translated not only to teacher education, but also special needs students as the relationship to story and connection to context is promoted.

Because there is a rich and recursive nature to post modern systems of literacy, and because I want to celebrate as many creative and diverse systems as examples towards understanding as possible, I have supplied auxiliary material for review. Appendix B and E present examples of projects, process, and curriculum I’ve used as a writing and art teacher during the past ten years. In Appendix C, I have also enclosed a narrative case assessment as an example for reading-language arts diagnosticians for comparison with other ethnographies. I feel strongly about this kind of attention towards the learner, and while it is time consuming and comprehensive, it truly fulfills the obligation of responsibility that I spoke of earlier. It also situates the diagnostician in a longer-lasting treatment program, as I have seen these types of narratives become a reference companion to the learner as they move onto other treatment and educational
situations. What might not be able to be expressed about a learner in standard assessments, is able to be shared in their story. Finally, Appendix F provides yet another example, of a curriculum developer who I define as post modern cultural translator. Excerpts of their studies are interwoven and blended with analysis.

Example One: Writing Unit Matrix For College-level Reading and Writing

The Goal:

To expand multicultural perspective of students by using text themes to teach writing, otherwise known as Compassionate Literacy: Reading May Open Your Mind, but Writing Will Open Your Mouth.

The Premise:

To pair narrative with expository writing in a seamless application built on style, voice, point of view, mythology, place-based connection, and the pursuit of advocacy for the novice writer.

The Themes:

The themes are selected from Gee, Kaplan, Chinn, Gruenewald, Harris, McLaren and writing excursions from Christensen. The operating focus is built as a composite blending the following themes, an are actuated in the writing lessons presented in the following pages.
The themes are:

- patterns of discourse
- readings in language and culture
- semiotic meaning - use meaning to think
- imposition by omission
- hidden rules & unthinking whiteness
- social context through literature
- social justice through writing of place

The Reason:

There is an escalating requirement for writing and reading teachers at the community college level. In reality, the course material at this level is more recovery based, with the main function of the curriculum to assist in the introduction of college level expectations, while functioning with skill-based thinking deficiencies. While this writing unit could also be applied to high school, its main design is to be a friendly, first step into higher functioning reasoning, and applied expression. Text were selected that may have been studied at an earlier age, but the application of analysis will be at a more stringent level, with the introduction of multiple genres and texts, plus multiply writing excursions, and numerous in-class “bus stops” into the lives of writers.
Both texts and writing excursions are selected out of my personal interest in themes cited above, and from Christensen’s success using her writing strategies. My own point of view towards literacy closely mimics that of Pauline Chinn, in writing of place through science-based projects developed out of environmental recovery. The old adage that you treat yourself the way you treat the earth rings true to me. If I can show alignment between a student and the health of their community, then as Chinn states, the issue of respect, regard, and knowledge honestly manifests as true multiculturalism. The writing excursions are built to both extrapolate from the readings a working understanding of writing, as well as to imprint on the student a method of expression to be used in their own writing, or at least “tried on,” for a sample or two. The skill building forum is then applied to the student’s work as they develop a point of view, while developing their own beginning environmental, political, class, race, religious, gender consciousness. I’m sure many students already have a point of view, but I hope to release certain boundaries they may employ that restrict compassion and acceptance in their literacy. One main goal or skill I want to promote is Christensen’s idea about social justice, not in the instructor, but in the student.
I was an advocate on the state level for seven years. I learned the power of writing for persuasion, and saw several bills become codified laws, with appropriation. I know how to show students the act of advocacy in their work, or in better terms, to make their work a voice for advocacy. The texts selected begin the process of questioning, of thinking, and of responding with an alternative voice. To then pair this with stories that are either not usually heard, such as Momaday and Lewis, or with stories that by imposition by omission, such as Huck or Island of the Blue Dolphin, that have previously restricted a viewer’s response, can begin a healing process of student’s ability to analysis and begin to realign talent into an advocacy position. I see this methodology as a way to engage at-risk students with their process of reading and writing, with their literacy of place, as they move forward in their beginning college career.

The Writing Unit:

This is a traditional 12 week class, structured with multiple reading texts, daily writing, weekly journal presentations, one book presentation, reading group for community reading, one research paper, two expository
writing pieces on legislation or community issues to be published either online, or in print.

Week One:

Intro to theme of multicultural, of place, of learning to see as an advocate. Discuss schedule, syllabus, texts; selection of private text by next class; in-class reading of writer; in-class writing excursion. Introduce Lamatt, and create a Found Poem. Intro semester long assignment of relationship with a tree. Reading assignment: read first chapter of private book, look for theme and character. Read first twenty pages of Lives of a Cell. Write in journal to share with group. Writing assignment: write three morning pages about your tree.

Week Two:

Read Gardner on focus. Read Tree Stories. Writing excursion. Discuss, and move into student’s reading responses. Introduce news articles on racism/gender and/or legislation. Introduce Semiotic Meaning - how to use meaning to think. Model Interactive writing and editing, make key word list. Model the act of writing, drafts, edit, on the board. Discuss literary devices in Lives of a Cell. Discuss student’s choices on private texts. Break into text based groups for discussion. Regroup, and writing excursion to incorporate days lessons. Reading
assignment: continue with private text making notes on structure, continue with Lives of a Cell, what are the elements Lewis is conveying? Writing assignment: morning pages on the tree; notes to share in text group; begin collecting data or writing samples on theme in private text: Native American, Black American, child rights, environmental, personal struggles.

Week Three:


Week Four:

Read Gardner. Read The Writer on Her Work. Writing Excursion. Reader’s Response. Introduce The Giver. Lecture on social justice, with selected examples of injustice. Correlate with themes in private text, and discuss student data and research. Teach Internal Monolog. Model writing example, based on reviewed articles. No group meeting.
Class discussion on texts, and comparing theme to class lectures. Introduce Imposition by Omission. Writing Excursion with Monolog, and sharing as a group. Reading & writing assignment: read first have of The Giver. Journal on devices used. Copy the devices and apply to writing on the Tree. Continue private text. Continue to gather data for project.

Week Five:


Lecture on Patterns of Discourse. Select a news article, and rewrite it according to Patterns of Discourse. Students discuss how their private text could be rewritten. Share research data, and ideas for presentation. What are the multicultural differences found in the private texts? How does The Giver define roles and values? Break into Group for text discussion. Introduce Legislative Analysis, on line. Show how bills are tracked, and how to find the elected representative and send communication to their office. Model writing a inquiry. Ask student’s to select topic to track, and write for community publication. Writing Excursion. Reading assignment: finish The Giver. Continue reading on private
text. Copy selections of author’s writing that seems exceptional, to share with class. Writing: Tree journal; start commenting on data for draft presentation.

Week Six:

Read Gardner. Read A Writer’s Work. Writing Excursion. Reader’s Response. Discuss The Giver. What examples in our society do we think are similar to those found in the Giver? Discuss news articles, compare and contrast the themes in texts. Discuss legislative issue, read inquiries. Send via email. Lecture on Islands. Discuss Chinn’s literacy of Place. Review the web site for curriculum. Read our Tree Journals. Introduce a Forgiveness Poem. Writing Excursion, based on the Tree and our own need for place. Break into groups for organizing data and presentation material. Discuss the links between prejudices and social justice. Link social justice to news articles. Reading assignment: Read one third of Islands. Writing: Tree journal; write rough draft of research paper.

Week Seven:

Read Lamott. Read Tree Stories. Writing Excursion. Reader’s Response. Discuss Islands. How does place dictate how people live, and what type of society is created to govern place? Discuss news articles on women and Native
American. Lecture on Hidden Rules and Unthinking Whiteness. Returning to Connection to Text, and Interactive Writing, model first step of gathering info on the board, and then have students incorporate lecture material with news articles. Share writings. Longer Lectures and writing to develop sustained work. Turn in rough draft of research paper, and pass out three copies to other students, collect three copies from other students. Meet in groups briefly to share papers. Reading: read second third of Islands. Read selected classmates research papers. Writing: Tree journal; How does setting and place dictate action in Islands? Write legislative review or digest on selected legislative bill. Inquire on publication.

Week Eight:

Read Gardner. Read A Writer’s Work. Writing Excursion. Reader’s Response. Discuss Islands. How are women viewed in society today? Handout Clark, Readings in Language and Culture. Discuss and compare to Patterns of Discourse. Review legislative communication. Review Discuss publishing potentials. Using class work on one legislative piece, write an Integrative piece for group publication. Use this as a model for personal work. Break into Text Group as they now prepare for group presentation.
for last week. I meet individually with each writer to review research rough draft. Reading: read last third of Islands. Writing: Tree journal, using devices as learned in reading and lecture. Write personal legislative review for publication due week ten.

Week Nine:

Read Lamott. Read Tree Stories. Writing Excursion. Reader’s Response. Discuss Islands. How are Native Americans viewed in today’s society? Continue discussion on hidden rules and unthinking whiteness. How do we see this in Huck and in The Names? Review news articles about Native Americans. Using all writing tools, write a 45 minute piece to discuss point of view. This is first sustained writing piece similar to writing final essays. Break into Text Groups, as I continue to meet with student’s on research rough draft. Reading: select one multicultural topic discussed in class, and create three discussion points brought forth from your private reading ie exclusion to heath care, profiling, education, and write your own advocacy statement.

Week Ten:


Week Eleven:


Week Twelve:

reps, as well as local authors of current, local interest, place-based themes

The Relationships:

By connecting writing activity into inquiry of local issues, and then moving into literature as an application of criticism, I see this syllabus as almost a backdoor approach to achieving the mandatory requirements of first year English. Through multicultural themes, through learning how to question impositions about cultures, gender, and political engagement, students learn to express a voice not only through their writing, but through their research, too. They learn how to develop what they want to say, and then through a deconstructionist methodology, they learn how to apply the structure to their point of view. The praxis is built on a critical pedagogy of place with Chinn, Doll, Gardner, Gruenewald, Christensen, Edwards, McLaren, as it relies on contemporary storytellers, in the form of novels that connect relationships between place and a point of view.

If a student is not use to writing, as most will probably not, I’ve introduced numerous writing seminars in the beginning of the semester, as a conditioning exercise towards practice of expression. I will provide an ongoing review process for reflection and dialogue. One goal is to
develop a community, based in the intimacy experienced while sharing one’s writing in a group. The student’s effort and personal exposure builds a sense of trust and a sense of value in having a voice, as expressed by Christensen. I am linking the student’s multicultural and linguistic diversity to not having mastered the skills to express their point of view in a manner accepted by standard English rules for school. As Scollon and Christensen discuss, one’s identity is based in language. How can teachers extend themselves successfully in teaching methods of college level expression if not by bringing these students back into the fold via connections to community, whether the community be the classroom, the student’s mythology, or the placed-based issues that live on the street. Since this is a crucial skill based class, I have given time for presentation skills in practice, as well as a prolonged time to develop, edit, and peer-review a research paper, with in-class sustained writing, so that future writings such as essay finals, will be an activity faced with experience and certainty. The weak side of this program is the multiplicity of texts. While the class share three readings together that focus on major cultural issues, the main private reading may be too varied, and
isolated. Perhaps the presentations would inspire future, home readings.

Writing Unit Texts:


A fable about following your dreams while on a journey to gain personal meaning, and to ask where is wisdom? The story allows the reader to suspend reality for a moment, and to inquire through the protagonist, what the meaning of their life entails, and raise the question of are they living to the fullest. As a stylistic device, Coelho is the master prince of fable narrative, a genre that is easily accessible for a novice writer to both read, and to emulate in their own writing.


Notes on craft for young writers, Gardner is the standard by which all writing classes are constructed. He was almost as famous as a teacher of creative writing as he was for his own works. In the guide book, Gardner explains, simply and cogently, the principles and techniques of good writing. Because his style is dated, I do not consider him easily accessible to contemporary,
novice writers. As the instructor, I would paraphrase and model his suggestions, prior to a writing exercise.


A unique gathering of stories and poems, written by adults and children, about a special tree in their life. Reading of these healing, heartfelt connections nurtures our human spirit and reminds us of the simple beauties of life. They also encourage us to sanctify life in all its dimensions, and strengthen our resolve to protect our planet. This book celebrates human relationship to the earth, via a tree. As per Chinn, writing about place, and connecting personal responsibility to the care of place, allows a student to transcend boundaries of disregard and ignorance, that can then be seamlessly transferred to treatment of people, at large. One journal activity throughout the semester will be to create, and nurture a relationship with a tree, and write about the experience. I will read a short story at the beginning of the class.


A true guide for any writer who wishes to live with writing. Through poignant vignettes, Lamott’s practical road map brings humor and love to the page. As the Seattle
Times says, "A gift to all of us mortals who write or ever wanted to write...sidesplittingly funny, patiently wise and alternately cranky and kind, a reveille to get off our duffs and start writing now, while we still can." In having students hear about writers talk about writing, I will read excerpts, or have students read aloud to the class, Lamott's words to help remedy any stage fright associated with writing.


Lewis shows how a cell lives life without question or doubt. He unveils the mystery of what life is, the essence of not being dead, and brings to attention the urgency for each human to express their true being. In this class, students voice in writing will follow Lewis's devices in trying on expository writing, while incorporating applied philosophy in viewing the world as a cell.


A futuristic fable of morality in society; a contemporary version of A Modest Proposal meets 1984. In the language of a young child coming of age, a story is told that incites reactions in even the most disengaged students. Social justice is viewed from this safe, fictionalized version of a designer culture, and from this
vantage point, students can compare and contract the inequalities in both the story and in present society. In approaching advocacy skills, this story initiates the reader into questioning, and responding through their own voice.


Considered to be a classic in American literature, Momaday’s story is a search and a celebration of identities out of ordinary people and materials. Momaday’s voice is a voice easily absorbed by novice writers, someone who can be copied and who can be elusive in embodying the simple, yet profound. This is an entree into Native American Navajo country life, in this generation, in this current time frame. One of the three choices for student’s to read for multiculturalism.


This is a story of Karana, the Indian girl who lived alone for years on the Island of the Blue Dolphins. Year after year, she watched one season pass into another and waited for a ship to take her away. But while she waited, she kept herself alive by building a shelter, making weapons, finding food, and fighting her enemies. This is
the original survivor, and she is a young girl. Not only does this story enlist the position of place, it also showcases the talents and strengths of young girls, and gently introduces a feminist genre into multiculturalism. Sternburg, Janet. The writer on her work. (1991). New York: W.W. Norton.


A narrative of a young boy on an adventure. An American classic that can be studied through a cross section of literary criticism of class/race consciousness, of psychological/Jungian theory, of child's rights ala Dickens in Oliver Twist, or Twain's own style of dialog and of American place.

Example Two: The Malama Project

Imagine being a twenty year veteran, science teacher where the demographics of your student population is twenty percent Native Hawaiian. As long as you have been teaching, one fifth of your students, over the past two decades, have never succeeded or even engaged with the
lesson materials in your class. You know other teachers, in other subjects such as language arts, have similar stories about these students. Hawaiians (are) stereotyped as athletic and musical, but not academically inclined, as described by Pauline Chinn, (1998). You’ve read numerous studies linking the lack of connections between the culture at home and the culture at school with disengagement disconnectedness, and alienation in students. And then you find out, “that students who share the same socioeconomic status as teachers are more likely to be familiar with the behaviors, knowledge, and communication styles valued in schools,” (Chinn, 1998). It is the teacher that provides the entree or secret pass word into the world of school, by not just teaching material, but by assisting as a guide during the transition into mainstream school. According to Chinn, “teachers often provide the social and academic skills and knowledge that enable them to enter unfamiliar social territory” (ibid). But what can this mean to you, as a teacher? How much more effort is required from you, especially when these students, who have conventionally been classified as marginal, can now make choices to attend charter or Hawaiian immersion language schools?
Chinn presents five practices in developing effective teachers for culturally and linguistically diverse students. Upon my review of these practices, it would seem that when any three out of the five were integrated in any curriculum, standards-based action plan, the effort required from the teacher will be less, rather than more. What is achieved with these methods is synergistic with engagement and natural inquiry for both the student and the teacher. The five practices are:

1) academic rigor with social supports,
2) student-centered classroom and discourse organization,
3) teacher as ethnographer,
4) students' knowledge as resource, and
5) general principles adapted to local circumstances.

The idea encompasses that teachers can be most effective, perhaps only effective, once they understand their role in relation to learning through the context of socialization and culture. As Chinn (Chinn, 2002) reported, "learning gained from a social location within a culture provides a teacher with an experiential knowledge base to connect meaningfully with students who are culturally different. Teachers must be able to work with
as strengths instead of deficiencies the varied literacies children bring to school (p. 2).” Instead of changing the student, change the teacher, or at least show the teacher what the student is asked to give up in exchange for mainstream education. That the possibility exists to connect with students once the teacher has connected with the student’s culture, is in itself worth exploration, considering the alternative of another lost decade of students.

Chinn created a situated learning immersion session, where for five days in June 2001, teachers lived together on the island of Hawaii at a rural school, at a remote mountain location. A Native Hawaiian teacher and his Native Hawaiian students guided nonnative teachers through the restoration and planting of a walled taro field. They learned how to prepare traditional foods, and attended to native flora. Cultural translators, other teachers already immersed in Hawaiian traditions, assisted in delivering lessons, communications styles, pedagogical practices, and science material. The entire session was videotaped, and teachers journaled daily. Interesting to me, was Chinn’s report that, “(teachers) acknowledged that familiarity with foods, dance, and a few Hawaiian words did not provide understanding of Hawaiian culture. Even if
Hawaii-born and raised, they were both unfamiliar and uncomfortable with Hawaiian terms, culture, and communication styles (p. 4). Does this not sound familiar and does this not possibly translate into the Southern California school classroom? How many teachers practice ethnic-avoidance by default, to then blame the student’s situation as a testimony to the failure of academic responsibility?

Over the five days, situations developed where the teachers experienced embarrassment from the new feeling of deficiencies of being linguistically and culturally illiterate. From a Hawaiian perspective, the teachers were deficient in their interactions with both land and people. “As teachers used to being in control of situations, we did not know how to respond,” (Chinn, 1998). Event after event, the teachers learned of their impoverished repertoire of Hawaiian culture, and saw how many important considerations within the lives of their Hawaiian students were never brought into the classroom. Not giving considerations to the important aspects of Hawaiian life was dismissing the value to much of the student’s existence. A large part of what was missing in the mainstream classroom was the understanding that the Native culture is oral, and the elements of learning within an
oral culture include observational, participatory and apprenticeship learning, especially with connection to the land. Ways of knowing and learning are prioritized to useful knowledge attached to a particular place and time. The teachers learned the Hawaiian world view of humans as subordinate in the natural world is opposite from the lessons taught in mainstream schools. Overall, teachers learned why Hawaiian children found much of what was taught in school meaningless. While most Hawaiian students did poorly in science, the teachers learned how deeply the student’s culture not only celebrated, but was inherently dependent on sustainability and stewardship of the land; “life and true learning were connected in ways that linked utility, responsibility, relatedness, and respect” (p. 5).

The outcome of the first retreat, and numerous other sessions, was massive integration from the teachers. Named the Malama Project (http://www.hawaii.edu/malama/), culture-science programs were developed that extended into language arts, history, mathematics, and social sciences. Culturally relevant instructional strategies of cooperative and collaborative learning, community partnerships, grants, new schools, and continuing teacher immersion sessions, under the auspices of the University of Hawaii, expanded the watermark of each student body and
district. Specific projects included, planting Hawaiian gardens, shifting to outdoor and community based learning which then developed into studies on watershed and stream observations and water testing practices; wetland taro farming was tied into family history; ongoing student observation of inter-tidal and multi-species activity; a development of a Bio-remediation Learning Center, which included students producing even the signs for self-guided tours. Standards-based learning was exceeded, plus the inclusion of a new generation of student population traditionally lost, was brought back into the fold. Chinn suggests, from the teachers' reports (p. 8), "that standards are addressed in a way that is personally, culturally, and academically meaningful to themselves and (to) their students. This view of connected, related learning derives from a Hawaiian perspective and their own experiential, immersion learning at school and community sites." Interpretation of these assessments suggest the elements previously framed around the issue of marginalized students as a blight on education system, is now the prescription toward a richer, functioning system that remedied a larger ailment: how to teach all students while bridled with standardized curriculum. The classroom became the communication center, the community became the
true place of learning. Many teachers created their own lesson on “How is Culture Related to the Environment.” The curriculum area satisfies science, social studies, and language arts. In reading the syllabus from the University of Hawaii, with respect to teaching fundamental science concepts, the course goals stresses “culturally relevant course content and activities are intended to increase the success of all students, especially those of Native Hawaiian ancestry” (www.hawaii.edu/malama/syllabus.html).

In studying with Dr. Ashcroft, I was introduced to the theory of redundancy: teach reading by teaching writing. The redundancy theory translates onto Chinn’s Malama Project: teach students by teaching culture, or perhaps teach the student by teaching the teacher.

This (w)holistic application of teacher as cultural translator or ethnographer appeals to me in my work about Literacy of Place. The application recognizes that all participants are in constant learning. One part of my theme comes from the idea that each Place, each unique culture has its own method of literacy. Literacy is accessible by learning from Place. Trouble arises, and failure shortly follows, when a method of one Place is transported and superimposed onto a new Place, ignoring the attendant methods completely, yet expecting the
results to look something like literacy. Chinn’s study shows me that a method of literacy superimposed onto a culture since 1960 exhausted itself. Local teachers had the wits about them to try something new: there was nothing left to loose. In two years, a new method of literacy has turned around the lives of students, teachers, families, and community. I imagine the changes have not always been easy. I imagine the life of Tom Chun, the twenty-year science teacher, might still be challenging. Working in an isolated system presents several opportunities that might not be available in other intersected communities: mainland equates to mainstream. Yet, several regions within North America proper, resemble those constituents of cultural diversity found within Hawaii. It is interesting that much emphasis toward multicultural teaching is focused on multicultural students moving into previously mono-cultural populations. Yet, similar blockages of literacy were found in Hawaii where the number of cultures involved was not the issue; the issue was the predominance of one system over the exclusion of the needs of the Hawaiian system. The exchange was reciprocal. The Hawaiians felt under valued, and many evaluated mainstream learning as useless. I wonder how this example is mirrored in other areas, such
as in the inner city, the pueblo, the bayou. I will watch to see if other communities embrace how cross-cultural knowledge supports the development of culturally relevant, standards-based curricula, and work towards my own contribution in teacher education in translating placed based literacy with post modern applications.

Example Three: Emerging Literacies of Marni Binder

In her presentation to the Fourth International Conference of the Holistic Learning: Breaking New Ground, in Toronto, Canada, October 2003, Marni J. Binder (Binder, 2003), set forth her principles of curriculum practice that nurture and foster creative, imaginative, and spiritual capabilities in the primary classroom. Her theme of emerging literacies can be accessed through the employment of visualization sessions, drawing, poetry, literature and literacy, and the arts. Each of the above elements are interwoven together throughout the week of classroom work, and assists the student in developing their own language of seeing the world. In a sense, her goal is to support, in concert with the teacher’s own experience, a safe place for the child to make sense of what is real in the child’s own world. As a beginning place in learning, this watermark begins the imprinting that learning is inquiry.
An example of might begin with the visualization sessions. Here, Binder has accumulated the results and benefits of this practice as providing the following:

- enhance and encourage meaning-making
- oracy skills
- artistic expression both verbal and nonverbal
- emergence of personal cosmologies
- poetry work enhanced
- imagining what if’s as if’s.

Partner this experience and practice with her other elements, say drawing or poetry, and quickly the methodology becomes readily accessible for engagement for the primary student.

Binder’s research implications are worth visiting in their entirety; this way the reader can see the scope of her application, and see why she was able to isolate and organize her elements as she did. According to Binder (p. 3) “my thesis can be viewed as frames for reshaping classroom practice and most important, open up and enrich the educational possibilities of seeing the world through the eyes of the child.” Her ten points of research are:

1. First read the images, then the text.
2. Reading the pictorial world of the child reveals multiple ways of knowing.
3. Children's artwork guides the interpretation and holistic knowledge of literacy development.
4. Meaning-making is at the heart of all learning.
5. Multiple literacies provide new possibilities to understanding meaning-making.
6. Educating through art encourages choice of expression, creativity, and imaginative capabilities.
7. Identity reveals the sociocultural significance of past, present, and future experiences and helps build community.
8. Pictorial representations, oracy, and text are interconnected in emerging literacy.
10. Let them draw, let them paint, let them write, and let them create.

While Binder presents these implications as evidence of her research towards cultivating a classroom environment for the mainstream school, I found these ideas to be thoughtful toward developing a classroom practice for multicultural students. Perhaps a better explanation would include the premise that if all students were to receive Binder's emerging literacy program, more students would have a common ground by which to develop,
interrelate, communicate, and support each other within the classroom community. These skills and confidence would then be transferred into their outside world, and would continue to be used as a personal tool in their longer career as students.

Binder also links the association between the student’s literacy experience and the teacher’s assessment of the student’s learning. An example of one literacy, is print. What the child experiences is: the meaning of images and words; text as a complement to pictorial representations; exploration of contextual significance in drawing and writing; and finally, negotiation of meaning through images prior to writing and reading. What the teacher experiences is: the styles children pass through in connecting drawing and writing; how children read their drawing and writing; the significance of “writing a picture”; and drawings as a form of graphic thought that transfers to print literacy. Other defined terms of literacy that Binder created in her reference are: spiritual, visual, poetic, aesthetic, gender, story, and print, all of which speaks to me in my practice of teaching.

In studying her criteria, responses, and thoughtful recollections, I see that each section is from the child’s
point of view; even the teacher’s assessment is based from looking at the child’s work from the direction of where the child is in their learning cycle. Much of Binder’s citations are from research based on new literacy (Eisner, 1997) teaching as storytelling Egan (1986), and visual literacy (Burmark, 2002), as a sample from her extensive bibliography. I will incorporate this collection in my work toward literacy of place.

While this study is for the young student, it still appeals to my sense of reason in applying Binder’s methods toward the struggling, ESL or multicultural student that may find an expression of being heard and feel the satisfaction of being understood by a teacher or fellow students. The semiotic aspect of employing Binder’s system of selected symbols of literacy may be a simple way to help students that haven’t done well in the more traditional system.

All three of these systems are diverse, yet all three are interrelated in the process of re-framing curriculum as they create parallel conditions in the post modern world.
CHAPTER FOUR

POST MODERN CURRICULUM

This is a very brief chapter of the project, but the conversation with postmodern education and literacy systems is on-going, and will forever return to the element of curriculum and the descriptive nature of how to define the beast. In sharing this text with twenty college teachers of reading and writing, the response has always been: tell me exactly what postmodern curriculum looks like; tell me how to teach it. In correspondence with national literacy councils, such as the Writing Center, sponsored by Harvard University, the response in their emails has been: tell me exactly what is postmodern curriculum; tell us how you define it. To prepare for this study, I was able to attend Sam Crowell’s master seminar class in postmodern curriculum. The main method of learning how to develop postmodern curriculum was to learn how to translate situations, perceptions, information and constructs into the new science modalities of reality, and then heuristically apply them to teaching. It is an individual experience, one that requires responsibility to context, culture, and interconnectedness. It blends personal charter with political watermarks. It can be
construed as expanding current curriculum, or it can mean clearly ignoring district policy. Regardless, self-organizing principles provide internal changes within the existing system of education, changes which will continue to inspire further translations in developing a curriculum matrix in literacy for all learners. The answer is not found written in a book, but is uncovered by writing the book; and being guided by the deeper question while teaching, "What is important?" (Crowell, 2003).
CHAPTER FIVE

CONCLUSION

This work is just a beginning dialogue with this area of interest. I am still in shallow waters, looking at my reflection. I hope the connection between old science and the separateness of literacy has been a conversation worth reading. In the writing of it I turn to bell hooks,

When I sit down to write I do not imagine my pen will be guided by anything other than the strength of my will, imagination and intellect. When the spirit moves into that writing, shaping its direction, that is for me a moment of pure mystery (hooks, 1998, p. 3).

It is the same mystery as described by Doll, Crowell, Bohm, Merton, and the rest. While this quiet understanding of post modernism is upon us, some people know that quantum physics and complexity theory have changed the view of how the universe works (Doll, 1993). Yet the understanding that this complete change is heuristic in application, is yet still and silent, as we watch it come slouching towards Bethlehem.
APPENDIX A

WRITING MATRIX REFERENCES
Writing Matrix References


Christensen, L. (2000). Reading, writing and rising up: Teaching about social justice and the power of the written word. Milwaukee: Rethinking Schools.


APPENDIX B

CHAOS THEORY AND MARBLING:

AN EXAMPLE OF HEURISTIC LEARNING
Brenda's Book of Hours

Marbling and Chaos Theory

Floating on an invisible surface tension of reconstituted slime mold, pools of colors disperse in open orbits of motion, and unequal space. Patterns and time are captured in a moment's notice, as pulverized trees lay flat as paper, while the transformative self-organizing process records the random predictability of marbling. The finished paper is a record, a snapshot in time, of the relationship between patterns invading each other's space of fluid pigment, time, and tension, creating a unique beauty all of its own.

Heuristically, chaos scientist Ilya Prigogine, looked at slime mold's adaptation to invade environments, and demonstrated how transformative self-organization occurs in far-from-equilibrium situations. He also investigated the relationship when another scientist "gently stirred maliconic acid, potassium bromate, and cerium ions, and from the homogeneous mass a colored circle suddenly appears, spreading from the center. Soon the whole solution appears red, but with a slight jiggle a new blue circle appears. The mixture then automatically flashes red, blue, red, blue, by itself at regular intervals. At certain oscillations (as in chaos mathematics) the circles spiral crossways so that turbulence occurs both horizontally and vertically. The process is auto catalytic and iterative; it feeds on itself, creating its own changes. For alchemists this reaction is magic. It is seen as but one examples of nature's many self-organizing actions, an integral part of nature's complex and chaotic order." This is also a process of marbling.

A community is also an example of nature's complex and chaotic order. Self-organizing, recursive, dynamic tension, relationships of patterns and space also can be transferred to the process of community: seamless most often, dissipative and regenerative at least. Instead of fluid pigments making the imprint, it is stories of people that captures the element of place, and shows what elements are in motion, as life spreads from the center, while creating recursive experiences defined as those far-from-equilibrium situations.

The medieval Book of Hours is a series of historiated and illuminated initials of gold and pigment, a patterning of elaborate design and space celebrating the devotional literacies of the 15th century French culture. This current Book of Hours, is but one example of the relationship between patterns and space. Many of the pages hold stories from my community, and functions as a record of many hours of my marbling contribution toward the history of mold beauty...the pattern is random, but there is a pattern, creating a unique, self-organizing beauty all of its own.
APPENDIX C

A NARRATIVE CASE STUDY FOR READING LANGUAGE ARTS DIAGNOSTICIANS
I. Presenting Problem:

Charles is a forty-one year old special needs client, who is exhibiting increased behavioral anxiety, accompanied with social/emotional withdrawal, exhibited by excessive sleep, reduced verbal interactions, and incontinence. Over the past ten years, Charles has decreased his reading and writing activity, and seems to be converting his prior interactive relationship with print into a passive receptor activity with photo magazines, and with video or television. During the past ten years, the only consistent reading activity Charles engaged in is reading the bible; the only consistent writing activity he managed to produce were seasonal notes to his sister. Now, both of these activities have also been eliminated by Charles. His sister, having been trained in transpersonal art therapy, and in reading/writing recovery, has expressed a concern about Charles’s emotional psychological health. She believes the withdrawing from his basic methods of communicating sustains further regression, and will promote increasing decline in Charles’s already precarious physical prognosis. She thinks a recovery program is required, and has initiated a series of assessments to provide a base line of Charles’s current communication abilities and literacy skills. Physical distance between brother and sister present an additional issue of facilitation, as well as the question of how to implement a sustained recovery practice. A treatment plan of art, storytelling, book making, choral reading, books on tape, are initially drafted as potential strategies, but more complex analysis is required to provide a comprehensive recovery program. The following observations and assessments are created to launch the first of many phases to understand Charles’s needs, and is pursued with the purpose of providing a place of relief and recovery through engagement with his personal version of literacy.

II. Background Information/Results of Previously Administered Assessments:

The following summary was produced by a case worker from Harbor Regional Center, a private foundation for giving lifelong care to patients with
childhood diseases. Charles is a client of Harbor Regional Center, and now lives in an assisted-care facility sponsored by HRC.

Charles was diagnosed with borderline intellectual functioning, cognitive disorder, seizure disorder, pituitary adenoma, diabetes insipidus, CVA with resultant Left Hemiplegia and depression. At age twelve, he was diagnosed with a pituitary tumor and this tumor could not be entirely resected. He had four surgeries between ages twelve and sixteen, and the tumor kept growing back, putting pressure on the brain. The surgeries and radiation also left Charles with hormone imbalances in his thyroid and in his testosterone levels. He receives hormone replacement medications every other week at the Pituitary Clinic at harbor UCLA, in Torrance, California.

Charles is ambulatory, but, he had a stroke last year that caused weakness to his left side. Every day, he walks with the staff for exercise to strengthen his legs. He is suppose to walk with a walker, but is not comfortable with it. He can feed himself, but he eats slowly. He likes to paint, watches TV, and enjoys going out to the mall. As the staff has observed him, he often gets tired and when he does, he would refuse to do his active treatments. Sometimes he likes to interact with the staff. But, he also has the tendency to isolate himself. Though he is verbal and is capable of making his needs and wants known, he has to speak up to be able to be heard because he speaks in a soft voice. You can barely hear him when he talks. Since he is a fall risk, the staff provides him assistance from bathing to grooming and toileting.

Diagnostician’s Report:

Previously administered assessments are in the fields of psychological surveys, motor skills, intelligence skill based relations, physiotherapy, speech, nutritional, vision exams, and monitoring of medications. No reading or writing assessments have ever been administered. Primary source information includes personal contact extending throughout the life of the client. Observations include watching the client respond to socioeconomic changes due to death of both primary care givers creating the lack of life support systems and non-existing benefits for six to seven years. This time period is defined by the diagnostician as a transitional phase. During the first two years of this period, the client appeared to be struggling, but functional within society, by being employed as a delivery driver, moving from family home into an apartment, and by maintaining friendships that entailed entertainment activities, such as fishing and horse racing at local tracks. Daily interactions required client’s participation with communication skills, such as computer drafting programs, writing notes and messages, reading maps, exchanging currency, shopping, writing checks, engaging in crossword puzzles, jigsaw puzzles, and word find magazines. Client also developed a library of animal videos, and documentaries on whales and porpoise. Using the newspaper to
find race results, tide tables, lottery winnings, movie schedules, horoscopes, and comics were part of client's literacy pattern.

The second part of this phase showed an increasing inability of coping skills, with acute mental and emotional disability surfacing quickly and deeply. During this time, the client was unemployed, having been fired due to violent outbursts of anger, and having experienced two episodes of unconsciousness during driving. Housing was provided by church facilities, which required the client to exchange social service relief checks for room and board. Additional responsibilities included client to participate in weekly bible study, community outreach service to the elderly, and maintenance towards the church. There was no privacy, no space for personal items, and little if no choice of daily activities. The outward benefit received by the client was a reasonably stable community of care, one, which provided discourse and fellowship, one which was chosen by the client as having meaning during a time of great disturbance and confusion. The guidance received by the client bordered on therapy, and required the client to participate in a cognitive manner by daily readings of the bible, listening and retelling bible stories, and writing passages of prayer for contemplation. The client kept a journal, and participated in discussion groups, both at church, and in the church home. Each year the client exhibited more sever physical conditions, often being rushed to the emergency room for loss of consciousness, and for treating the immediate resulting condition of head injuries, and associated secondary trauma. At the end of seven years, the client was told the house he was living in was closing, and he needed to find another accommodations. No communications with family transpired, until the client had been living on the street for one week, when a phone call indicated the client was leaving the area, and would follow-up with forwarding information. Six weeks transpired, with no contact. Finally, a nurse at Harbor UCLA Regional Hospital contacted the family with information the client had been admitted for seizures. Life for Charles had changed.

The next four years for the client were years of constant change and fluctuation; nothing seemed to stay the same. Pathology reports confirmed a thickening of scar tissue from prior surgeries within, and around the cerebral cortex. This is a nonspecific condition, which means it is predictably unpredictable. Certain chemical conditions created by stress or medications can inadvertently stimulate the scar tissue to secrete pressure on the brain and stimulate responses ranging from anger to stroke. Indeed, the client has had several large and small strokes, and exhibits corresponding physical conditions. These conditions recede and abate, only to erupt unexpectedly. One day the client appears to be cognizant and engaged with social interactions, completely competent physically, then the next day exhibits vertigo, fuzzy thinking, and irritability. When presented with a new, somewhat
compelling situation, such as an outing or shopping, or meeting with a psychologist, the client can appear completely focused and functional.

Two years ago, after lengthy psychological testing, Harbor Regional Foundation, deemed Charles as mildly mentally handicapped, and adjudicated he is legally responsible for his own decisions. They also decided to accept him as a client because of his multiply surgeries prior to age eighteen. This step began the process of placement into homes that has been less than optimum for the client. On one hand, the client requires the level of nursing attention to administer fifteen drugs daily, which is similar to clients classified as lower functioning, such as Down’s Syndrome, and other even more severely handicapped conditions. The first two homes had six clients, and Charles was the only one who was ambulatory, and was the only one who could speak. On the other hand, Charles was accepted into an accelerated day program of piecemeal work at the Good Will, because of his original assessments of high functioning abilities.

Yet, within six months of this living/working situation, Charles stopped speaking, started to rebel with staff, and left his home facility at night in his pajamas to go get a bite to eat at the local Jack in the Box. He often fell, once loosing his glasses. His loss of glasses wasn’t noticed until this diagnostician visited two weeks later.

III. Observational Information:

Currently, a situation exists where the combined conditions of social withdrawal, latent anger, non communication, and lack of motivation for personal hygiene has created an incontinent, overweight, heavily medicated, sleep disordered, unfocused, bored and depressed client. When this diagnostician queried the case worker about factoring emotional considerations into treatment plans, the response was that all treatments are based on achieving the optimal physical condition; emotional health was not a consideration. The family has denied numerous requests from the staff nurse for increased dosage of Prozac and other antidepressants. Upon extended review of the client’s updated medical and psychological reports, in combination with house reviews on behavior and social interactions, the following considerations were developed, and aggressively pursued for application.

1. Change in day program from menial piecework to art program, with yoga stretching, and visualization. Transportation arranged to and from day program facility, so client can achieve a sense of independence and responsibility. Client now attends five days a week, from nine in the morning until two in the afternoon. All art is brought home, and placed around his room. Client retells his story about his experience, his process, and his future plans. He is able to give art projects as gifts, and now shows a sense of reconnection to his ability to share and to give to others. Client takes a sack
lunch to eat, as opposed to eating of the service truck that supplied the Good Will. The food is less processed, and more balanced equating to less carbs, and less weight gain. The weight loss is gradual, but the benefits are immediate with respect to his diabetes and heart condition.

2. **Weekly group therapy outside of the home.** Again, a transportation van is secured for Charles to attend a group session where he mostly listens, but is engaged by his body language, and facial expressions. Topics are introduced to think about during the week, and clients are encouraged to keep journals to record thoughts and feelings. Charles has not started his journal.

3. **New vision examination and new glasses.** Charles is wearing new glasses, and is experiencing less vertigo, and less falling. He has fewer headaches, and wants to take fewer naps during the day. He watches television with the house members, and exchanges comments on what interests him.

4. **New home, with appropriate higher-functions members.** Charles was placed in another facility with a population of members that are also ambulatory, and all of them can speak. Each member has daily chores, and assists with the preparation of meals. Each member attends a day program suitable for their needs. When they return home, they are able to discuss their day, and exchange discourse with each other. They talk about the accomplishments, their problems, and they listen to each other, in return. Charles is speaking frequently, although still not in a modulated manner. He is still hard to hear, but it is noticed he speaks louder with his fellow members, than he does with the staff or with family. He is able to control his bladder and bowel movements, but still wears diapers when he goes out, in case he has difficulty with timing and maneuvering his buttons and zippers. His left side motor skills are still improving, but often during duress, fall short of his intent.

5. **Reestablish attending church service.** Find a convenient location for the client to return to a fellowship program within the church. The sense of belonging to an outside community of choice will add to Charles’ growth, both in social and in emotional scope. Regardless of his many personal hardships, and traumas, Charles still express a sense of justice, and hope. He can be cynical, and terse, yet there is still humor, humility, and a general connection with his past. Perhaps listening to scriptures, or a sermon on how to live through hardship, might supply encouragement.

6. **Employ a literacy program for recovery in overall communication.** Providing assessments was deemed to be necessary for establishing an understanding for base line comparisons, yet focus on teaching reading strategies was not a primary goal. Due to pathology and excessive medications, a program of literacy was developed for recovery in communication, for reengagement with prior interests, and for a return to personal satisfaction through reinvention of the client’s persona. The first goal
was to bring the client back into the use of verbal exchange and discourse. A sense of resignation or quiet despair was clear in Charles. Some form of cognitive interaction was needed to remind him of connections to the world, and to himself. The second goal was to exercise his choice in literacy activities: what did he miss from his old life of community and friends? What could be reintroduced into his current existence? What would give him pleasure, and be self-sustaining where he could initiate the activity on his own, during his free time? The third goal was to develop skills in writing and retelling. This is needed to develop a sense of current history, and memory in hopes of moving him away from days of uneventful time, punctuated by meds and injections.

It is the diagnostican’s belief the recovery process is two fold: first, remove the environment of low-functioning expectations and catatonic levels of communication, and replace it with higher-functioning requirements living with a population equipped to challenged Charles, even if it is only challenging his myth of himself. Second, employ personal activities for skill-based, cognitive flexibility often left out of the treatment plan. With these two assets working from both the outer and the inner worlds of the client, it is hoped that a small part of what was left behind may return to keep strong what is left remaining. Living with people who can’t speak, and who can’t use the toilet produces a hybrid peer pressure of its own; it easily and insidiously seeped into a life that needed to be part of a community. The vulnerability of the client reformed his survival skills down to the lowest common denominator. Regardless of the impeding scar tissue, in spite of the medications, which seem to be increased as Charles' cognitive skills decreased, the client still has a margin of literacy left to rescue. It is proposed that over time, an increase of expressive interaction, and a decrease of depression will be achieved due to a program of literacy activities. It is not suggested these activities will replace or supplant current of future psychological treatments, nor are they intended to establish new definitions toward his mental handicap. Little, if any literacy activities are included in his structured life. But, it is suggested a decrease of antidepressants, an increase in quality of sleep, and a greater sense of self might be a transformative possibility through the art of Charles’ reading, listening, watching, writing, and retelling his stories, of connecting to his literacy of place.

IV. Assessments Administered/Results: Over three sessions of about three hours each, the following assessments were gathered informally. In looking at the entire situation, it needs to be remembered the client does not engage in any reading or writing, does not talk on the phone, does not initiate conversations, nor expresses his opinion. When he experiences excitement, it is expressed by hitting the wall, and making high-pitched noises, similar to a whale call. When asked direct questions, Charles often gazes off to the side, and refuses to answer. Parts of the communication style started six or seven
years ago, but has accelerated and escalated to a form of denial and withdrawal similar to phonemic awareness, yet it was found that even just participating with the request for information, the client enjoyed the exchange. While he tired easily, we could move through many of the assessments with fun, as entertainment.

A. Interest Inventory: Charles says he likes hero comics, sports stories, and anything involving dolphins, whales, wolves, the ocean, and cooking. He also has a growing obsession of pornography, but he won’t discuss it. While he doesn’t want to read, he does want to watch videos or movies. We listened to a mystery book on tape, and he became bored. When asked if he might want to listen to a book on tape about one of his interests, he thought it might be acceptable. Together, we moved through two children’s books, “Follow the Moon,” which is about a lost baby turtle finding its true self, and “Jolly Mon,” a Jimmy Buffett tale about life on the sea, rescuing friends. Both were the hardback, two-lap versions for reading together, while we listened to the accompanying audiotapes. This held his interest, and started a conversation between text - to - self, and text - to - the - world. Both books are lush in illustrations, four color, full bleeds. Charles talked about how he could reproduce his version of the paintings. Another strategy was presenting Charles with a book of daily affirmations, not biblical in nature, but more along the line of positive sayings for daily contemplation. We read a few together, selecting special days of the year: his birthday, remembering his mom and dad’s birth and death days, to work through, and discuss. He also remembered specific events from twenty years ago, and used the reading as a method of retelling the event. He did this on his own, without any prompting. It seems given the opportunity, the time, and the attention; Charles can selectively reconstruct much of his past, with detail and fondness. We ended by Charles writing a brief affirmation, which was left by his bedside to view.

B. Self-Concept: Charles has a history of computer literacy, such as using CAD-CAM drafting programs for his last job, and playing computer games at home. He says he doesn’t have a favorite book, and cannot name a title that is important to him. In communication skills, Charles says he holds complete thoughts, and opinions, but prefers not to struggle with the effort in conveying them to people. He is aware the act of communicating is difficult, and says he accepts this as normal. When presented with a situation where he has to explain what he is thinking, he closes down, and is quiet. As an assessment of prior skills, a computer, with chess and word find software was brought in for the client for use. These are similar to his prior programs. Time was spent reintroducing him to the programs, and we worked through the first levels together. The client was then left alone for individual activity. He was engaged until he reached a technical/logical problem, and not being able to resolve the issue on his own, he stopped using the computer. When the diagnostician was present, the problem could not be recalled for resolution. A
history of frustration and dissatisfaction was developed. Within six months, the computer disappeared; the client said someone stole it. A game boy computer system was brought in with programs previously enjoyed by the client. The fast action nature and quick response became a dilemma, and a frustration level was quickly reached. The game boy was removed after six months, too. To function within a level of satisfaction, these activities need to be shared with someone who can assist with immediate difficulties. The idea of providing edutainment via technology as personal interest during private time, only showcased Charles level of recovery. The appropriate activities for cognitive exercise are best found within situations of personal conversation over a live game of checkers, chess, and working through word find magazines together. Modeling, coaching, and recursive practices of short reads, mini-lessons, and list making create an exchange of skills normally not invoked, but easily achieved by the client. The challenge is to decide how to handle the gap between Charles' perception of self, and his need for self-satisfaction and ability.

C. Phonemic Awareness: An overall cueing system assessment was collected, but administered during three separate sessions, in one month. The process took on more of a “game” activity, and provided a range of responses that perhaps mirrored the client's level of mood, and focus influenced by medications, diet, ambient noise level, and overall clarity. Instead of reading text, a script was written by the diagnostician based on the client retelling the events experienced at the day program. While the script might not have matched the appropriate level of ability discerned from the assessments, the process of making connections and using those connections to promote a relationship with literacy exercises was the criteria. This script was also used as a model for journal writing, reflection, and developing voice for the client.

D. Auditory Conceptualization: Charles is not tuned into the world around him, and he chooses to keep his inner world to himself. The Auditory Processing Checklist was give twice, with increases with involvement in areas of attention span, general participation and interest; slower, clearer speech, and retention of comprehension. Recursive scaffolding of approaching a thought, as opposed to a topic is required, and seems to assist the client in remembering. This is not about learning, as it is about exercising skills.

E. Phonics: The Spache Supplementary Phonics Test was given with high scores produced on every test, except Number 7, the Initial Consonant Substitution. The client could not substitute in his head, but could make new words after the consonant was written, or in some cases, the entire new word had to be written to be understood.
F. Word Recognition: The McGuffey Qualitative Inventory was used for word recognition, and not for spelling. The client used a yellow marker to show which words he knew, and he then had to say the word out loud, and use it in a sentence, which was also spoken, and not written. All words up to Level III were known to the client, and he was able to construct plausible sentences. By the time Level VIII was completed the client was tired, and not interested in the task. While the client did not recognize the words in these levels in print, when the word was spoken, the client could construct a sentence using the appropriate meaning. This exercise was useful in returning to words that are not used in the client’s daily vocabulary, and it was a method to rekindle prior knowledge and schema. Plus, the client spent over an hour with this exercise, longer than any other event. His prior keenness for word find puzzles was activated, and Charles asked for a couple of the puzzle books to be brought to him. This was the first request for supplemental resources.

G. Reading Comprehension: Because there is a strong history of not reading, and because there is a current lack of expression with almost any and every subject/topic, a Read-for-Meaning guide was produced to assist in the process of connecting to meaning. An example of this simple guide is included. All the answers are written and are correct, which is not the value of the exercise. Having a goal easily understood, and easily attained, helped in not only finding meaning, but it produced a “game” like quality, a scavenger-like event, for the reader: It also lead the quest to the end of the book, “The Blue Day Book,” by Bradley Greive, an animal picture book about how to cheer yourself up. This is the beginning exercise of reaching and retaining meaning. Charles recalls a surplus of information from the past, and has the ability to glean new information through television, radio, and video. It is the quest through print, and through writing, that Charles reunites with the art of self-expression and voice, to begin the act of metacognition for awareness, connection and satisfaction.

H. Writing: Charles’s writing is directly related to his course of medications, and his diet. If thyroid medications are in his system, he is alert and his motor skills function in a manner that produces neat penmanship, a fluency in wordsmithing, and an ability to build on thoughts. If Charles had a fitful sleep, and the staff nurse gave him additional sleeping meds, then all motor skills are deficient, and his desire for communication is void. Simple exercises, such as signing his name to cards for mailing, writing thank-you towards a kind art instructor, or an aid; or keeping a list by his bedside, are being developed and encourage to become part of his daily writing exercises. Eventually, a dialog journal will be introduced, and promoted as a type of scrap book for review and retelling events important to him. In reference to the Six Traits of Writing, Charles is an emerging writer. It is too soon to introduce My Writing Reflections or the Proofreading Checklist, but within the year the
exercises will be explored. Perhaps a variation, combined with a Reading-for Meaning guide will be developed, and the papers kept in a portfolio for reflection on growth and skill levels.

I. Vision and/or hearing screening: Vision and hearing are elements the client struggles with on a constant basis. Three pairs of glasses have been lost during the past two years, with several months in between fittings. Headaches are common, and sensitivity to light and sound is present. A brief vision interview is provided for review. One goal is to find a large print bible, with ample white space margins. Charles’ Span of Perception can be developed over time, utilizing resources specific to his existing skills. While the group home is a safe community of higher-functioning members, it is also a home of loud, high volume of voices, and full of ambient noise. Charles doesn’t keep earplugs well, as they disappear under the bed. Headphones are too cumbersome for one hand to operate, but they could be a motor skill goal for future achievement. A white noise machine, and an ocean wave machine have been introduced, but when the diagnostician returns to the facility, the machines are tucked away in a drawer. Charles is reluctant to discuss why he is not using them, and an attendant who might have been involved so far hasn’t been reached. Quiet, private time is difficult to locate, and when asked about the importance of quiet time, the house facilitators agree, yet are unable to provide this request, just be design of the living quarters. Charles’ ability to communicate with animals is noteworthy. Not only does he notice animals, they stop to notice him: they come up to smell, touch, and lick him, as well as look into his eyes. When at the aquarium, he talks to the mammals and the fish, and seems to be pleased with the exchange. Having a running video of dolphins or whales, in the background of his room, while he lies in bed, seems to be a way to relax, and to enjoy his private time.

J. Burke Interview: A modified interview was collected, with the focus of determining the client’s perception of reading, and if there was a role for reading in his life. Charles remembers having to read in school, prior to his surgeries, but does not remember what type of books, nor does he feel attracted to print in his current life. He does not miss reading, he does not think he is missing out by not reading, and he does not think by adding print his quality of life would improve. He avoids situations where he might not know a word, hence his mumbling, and quiet, quick speech. His strategy for reading is not to read. And, without reading, he doesn’t write. It is too easy to say

His speech strategy is based on his lack of reading, but is instead a combination response in tandem with his other coping skills, such as avoidance and telling stories.

Also, Charles’ self-image is based on a reality from twenty years ago. He feels he is smart, and is entitled to the recognition once received. He tends
to not be comfortable with people, and tries to please at any cost to his own safety. The time spent on the streets has yet to be broached, as he shies away from even the slightest hint of that part of his life. All of his personal possessions were lost during this phase, and very little of new possessions have stayed in his domain.

The following recovery program is in draft version, and will be presented as a proposed initial phase to reintroduce a relationship with communication via personal literacy.

V. Areas of Strength and Need.

A. Areas of Strength: Charles has a strong desire to watch videos on ocean mammals, and most any other wild creature on land. He can recite details and has a deep knowledge about these animals. When he tries to share his knowledge, he hurries his speech and is often misunderstood. While he shows an understanding of print, he chooses not to incorporate print into his life. Yet, Charles is showing a rekindled interest in reading for meaning, if the goals are explained as a pre-reading strategy. Retention level is high, and meaning is transferred to his surrounding world. The level of cognitive exercise has been modest, in comparison to the length of time he has lived in a volatile and precarious existence. This work has produced a response by the client that indicates he is receptive and can be encouraged to develop stronger communicative skills. Time limits must be managed and observed, with respect given to the client pending pharmacological and psychological indicators. Shared conversation, recursive scaffolding, and a personal-rich curriculum ending on achievement is needed to grow Charles’ confidence and to stimulate his desire to correspond. Relying solely on videos for extended instruction is a disservice to the client, although visual aids selected from the art and animal world contributes to his quick connection and meaning making. One-on-one, mini oral presentations or retelling will help establish clearer speech delivery, and will build confidence by experience. He has the desire to share, now he needs the skills to be heard.

B. Areas of Need: Charles needs a personal tutor, three times a week to partner with shared reading, dialogue journals, reciprocal teaching, retelling, writing notes for the mail, walks in the park and on the beach, and listening. Since the client is receiving weekly group therapy sessions, a method of processing new feelings and emotions needs to be developed for outward expression, as opposed to his usual coping skill of leaving everything inside. By building up a tool box of journal entries, perhaps ushering these personal items onto the page will provide a modicum of relief.

Besides the obvious materials of interest, a push towards developing a point of view and a voice needs to be encouraged and structured into lesson events. Pre-stamped envelopes with cards for writing, journal binders for drawing and entries, and frequent phone calls are all simple, yet effective
tools for connection. Using children's lap books as prompts for older issues open discussion. Discussing movies for motives, and for showing resolution provide a forum to connect to other texts, and to other situations in client's life. Books on tape would provide content, and perhaps create an auditory world occupied with sounds of interest to the client.

VI. Instructional Goals and Methods/Strategies of Instruction: Many of the proposed strategies have already been discussed. Since the goal of this project is developing a personal literacy of cognitive skills and communication, lesson plans have been replaced with therapeutic modalities for recovery. Time frame for this program is longitudinal, starting with the most basic literacy exercises as a foundation. Keeping a journal and a calendar of daily events is most useful right now to keep distinct what transpires, and will provide specific writing and retelling prompts. Sending letters with specific questions can prime the pump for response sharing. Posting a bulletin board next to Charles' pillow with examples of his interests will provide ways to ponder and stay with his developing ideas. Most important is knowing skills will have to be developed with a partner; the client will not devote time to the activities if left on his own. Intensive tutoring is required to model skills, and to develop a body of work that might carry on in some form, as the client responds to the strategies.

As stated in the beginning, this literacy recovery is focused on arresting the regression of the client. Neither effort, nor instruction from the attending institution is available to augment or assist in the overall treatment and management plan. It is incomprehensible to this diagnostician that so much effort and resources are devoted to clients in the form of medications and behavioral modalities, yet little attention has been raised to the proportional relationship between a client's cognitive decline and the direct link to their physical and emotional status. Personal literacy is important, and it is an entitlement that seems to be overlooked, dismissed or replaced with a prescription. It is in this brief attempt towards Charles' recovery program that these efforts might be seen as a valuable contribution to the maintenance and health of all institutionalized clients. Even if Charles continues to hit the wall with his fist, and squeals in delight like a whale, he will have had the choice to tell a story in many other ways, and maybe one day instead of staring off into the recesses of avoidance, Charles will actually have enough of a voice to answer a direct question.
APPENDIX D

THE MALAMA PROJECT INTERVIEW

AND CHINN’S ANALYSIS
Malama Project

This study examines theories that building relationships among individuals from different cultural backgrounds entails joint activity toward a common goal, engaging in cultural dialogues and employing cultural translators. These theories were employed in a community based professional development program for 25 P-12 teachers who were to develop culturally relevant science curricula for Native Hawaiians who as a group are underrepresented in science. Native Hawaiian instructors and non-Hawaiian teachers engaged in culturally relevant activities and lived together for five days in a rural school and a remote mountain site. Written and videotaped evaluations reveal that teachers were deeply moved by their experiences, recognized their superficial knowledge of Hawaiian culture and reported that Hawaiian instructors provided cultural insights and teaching strategies they could adopt in their classrooms. The study suggests that professional development incorporating immersion in a new culture accompanied by joint activity, cultural dialogues and cultural translators can help teachers gain a cross-cultural knowledge base and the cultural literacy that supports the development of culturally relevant, standards-based curricula.

The Malama Project

In the 19th century, Hawaii's colonial elite established a language, race and class-conscious society that reproduced itself through elite, private schools primarily for whites and public schools for Hawaiians and the immigrant working class (Stueber, 1964). Hawaiians and their traditional culture were systematically marginalized through a western style constitution that enabled privatization of lands, a plantation economy, and the adoption of English as the language of commerce and the elite. The Hawaiian population and its cultural knowledge and values of connectedness to the natural world, sharing, reverence for ancestors and allegiance to family were eroded through disease, Christian conversion and western schooling that disrupted cultural transmission. Though Hawaiians living in rural areas had few economic opportunities, they maintained a sustainable, traditional lifestyle until streams were captured to irrigate thirsty sugar plantations. Despite this, until the monarchy was overthrown in 1893, Hawaiians enjoyed high literacy rates in the Hawaiian language. After English replaced Hawaiian as the language of schooling, spoken Hawaiian and pidgin English, the language of the working class were forbidden. Through 1960, students who passed an oral test could attend elite English Standard public schools (Stueber, 1964). Hawaiians were stereotyped as athletic and musical, but not academically inclined. The longstanding overrepresentation of Hawaiians in non-college bound tracks, special education and at risk programs suggests that the competitive and individualistic cultures and curriculum of mainstream American schools may
not be appropriate for Native Hawaiian students. Heath’s long term studies in
three neighborhoods in the 1980s of African American working class, White
working class and mixed race middle class families showed that only the
children from the middle class community made a smooth transition into
mainstream, middle class schools (cited by Langer, 2001).

These findings suggest that students who share the same
socioeconomic status as teachers are more likely to be familiar with the
behaviors, knowledge, and communication styles valued in schools. Studies
that focus on the connections (or lack thereof) between home and school
consistently show that greater cultural difference tends to be associated with
greater student disengagement, disconnectedness, and alienation (Chinn,
these students successfully make the transition into mainstream schools,
teachers often provide the social and academic skills and knowledge that
enable them to enter unfamiliar social territory (Hana‘ike, 2000;
Stanton-Salazar, 1997).

The educational problems of Hawaiians as a culturally distinct group
led to the passage in 1988 of the Native Hawaiian Education Act,
administered by the U.S. Department of Education, Office of K-12 Education
Programs. Curriculum developers recognize that groups are culturally different
and have cultures of which they are proud (Doll, 1996). Some communities
believe themselves so different they wish to learn on their own terms. This is
especially true in Hawai‘i where some Native Hawaiians consider their
language, cultural knowledge, and values are threatened with displacement by
mainstream western education (Meyer, 1998). Private P-12 schools, charter
and Hawaiian immersion language schools primarily for Native Hawaiians are
ways that some Hawaiian families seek cultural continuity, but the great
majority of Native Hawaiian students still attend mainstream public schools.

What does the research literature say about effective teachers for
culturally and linguistically diverse students? Mehan et al’s (1995) reviews of
multicultural ethnographies identified 5 effective practices:

1) academic rigor with social supports,

2) student-centered classroom and discourse organization,

3) teacher as ethnographer,

4) students’ knowledge as resource, and

5) general principles adapted to local circumstances.
Effective teachers were high-level decision makers with a wide repertoire of strategies to address student diversity. They understood the roles of socialization and culture on learning, taught for meaning, assessed frequently, collaborated towards common goals and reflected on their own cultures and experiences to understand how their teaching beliefs and practices had been shaped (Johnson, 1993; Ovando & McCarty, 1999; Chinn, 2000).

What aspects of professional development help teachers understand the role of socialization and culture on learning? Gee, Hull, and Lankshear (1996) hold that “language, literacy, and learning can only be understood when situated in their social and cultural setting” (p. 1). Learning gained from a social location within a culture provides a teacher with an experiential knowledge base to connect meaningfully with students who are culturally different. Teachers must be able to recognize, work with, and recognize as strengths instead of deficiencies the varied literacies children bring to school.

The significance of situated learning implies that teachers need to learn cultural literacy from a position within the culture from members of the culture. This perspective led to the planning of a cultural immersion in rural school and community settings led by Native Hawaiian teachers in the role of cultural translators (Cheng, 1998). Purpose and Design of the Study This study explores the roles of cross-cultural immersion and cultural translators in developing cultural literacy in teacher education programs. The study group is composed of 25 P-12 teachers enrolled in TECS 433 Interdisciplinary Science Curriculum, Malama I Ka ‘Aina-Sustainability, a June 2001 to June 2002 course to prepare teachers to develop science curriculum especially relevant to the 20% of the P-12 population who are Native Hawaiian. All teachers were U.S. citizens; eleven were Japanese, six Chinese, three White, three Native Hawaiian, one Filipino, and one Korean.

For five days in June 2001, teachers lived together on the island of Hawai‘i at a rural school and at a remote mountain site. At the mountain site, a Native Hawaiian teacher and his Native Hawaiian students guided teachers through restoration and planting of a walled taro field (kalo lo‘i), and teachers prepared Hawaiian foods and propagated ohi‘a lehua, a native tree. At the school site, instructional activities included hands-on, cooperative learning activities; direct instruction in science and cultural content and service learning at school and community sites. An interdisciplinary, multiethnic team of three Hawaiian cultural translators, teachers themselves and fluent in the Hawaiian language, directly and indirectly taught culturally relevant interdisciplinary lessons, communication styles, and culturally sensitive pedagogical practices. Three university level instructors (Chinese, Japanese, White), and three experienced site teachers (two Japanese, one Filipino) making up the balance
of the instructional team were primarily responsible for delivering science content.

Malama Methodology

To assess the effectiveness of cultural literacy components of the immersion, teachers filled out written evaluations and orally shared their experiences on the last day of the summer immersion. Field and classroom observations were made throughout the 2001-02 year. Researchers and teachers also documented activities through photographs and videotapes.

Teachers’ curricular plans were evaluated for cultural context and site visits made when lessons were being carried out by teachers and students. Student and teacher products were documented and collected through the school year. The project web site is still being developed, but an overview of the Malama project, the participating teachers and schools, and examples of lesson plans and projects may be viewed at http://www.hawaii.edu/malama/.

Malama Results

Teachers evaluated their cross-cultural learning at the end of the five-day immersion in writing and on videotape. On-site evaluations revealed that some non-Hawaiian teachers, even if Hawaii-born and raised, were both unfamiliar and uncomfortable with Hawaiian terms, culture, and communication styles. They acknowledged that familiarity with foods, dance, and a few Hawaiian words did not provide understanding of Hawaiian culture. These teachers valued the culture-science immersion, drawing the analogy of the experience as opening the doors to a culture they felt as both familiar but inaccessible. They recognized that knowing more of the language, such as place names that capture key historical or environmental characteristics of sites and key phrases that convey Hawaiian values such as malama ‘aina to care for the land, and aloha ‘aina, love for the land, were essential to a deeper understanding of culture. The opportunity to live with, learn from, and interact with a Hawaiian teacher who spoke Hawaiian and raised taro himself was especially helpful. Teachers noted how he interacted with and taught his Hawaiian students. They noted different patterns of verbal and non-verbal communication and the incorporation of spiritual and cultural elements in instruction. Through his students’ performance of a chant prior to entering the land, teachers understood that Hawaiian conceptions of the land (‘aina) and natural world include deep relational and spiritual components, unlike Western conceptions that present nature as inanimate and appropriate for dissection and objective study.

At the remote mountain site where the group restored the stream-fed taro terraces, the Hawaiian teacher and his students recited a chant
incorporating the significant elements of the site. The chants of visitors should be answered by a chant from those who are hosts at the site. Though one of our site teachers was a manager of the land, he was not Hawaiian and we did not even know we were responsible for a chant. We were in the position of being linguistically and culturally illiterate, and from a Hawaiian perspective, deficient in our interactions with both land and people. As teachers used to being in control of situations, we did not know how to respond.

Through working to restore abandoned taro terraces under his guidance, we began to understand how in an oral culture, observational, participatory and apprenticeship learning is important. For a people living in close connection to the land, ocean and weather, close observation, deep knowledge, and a long memory of local resources and events are critical to survival and sustainability. Hawaiian teachers as cultural translators helped urban mainstream teachers understand cultural priorities and ways of knowing and learning. Teachers learned why Hawaiian children found much of what was taught in school meaningless. So much had to be remembered about the world in their oral culture that the highest priority was accorded to useful knowledge attached to a particular place and time. Names were only given fish and plants that were deemed useful and culturally significant, but the entire world was connected to humans in a family oriented relationship of responsibility (Meyer, 1998). Unlike the western ideology of humans being in a position of power over the natural world, Hawaiians placed humans in a subordinate, even subservient position to the natural world.

The Hawaiian proverb, He ali'i ka 'aina; he kauwa ke kanaka translated as “The land is a chief, man is its servant” reveals the deep reliance of humans on their natural environment (p. 62, Pukui, 1983). The rationale for Hawaiian views of sustainability and stewardship became clearer at the mountain site where participants relied on streams for water, cleared land, planted the principal Hawaiian crop, and experienced the importance of cooperative work. In Hawaiian culture, life and learning were connected in ways that linked utility, responsibility, relatedness, and respect.

Teachers realized that Hawaiian families, though no longer speaking Hawaiian, still maintain cultural views of what is important to be learned and how it is to be learned. The following quotes taken from the written evaluation at the conclusion of the immersion suggests that some of the teachers are clearly considering curriculum decisions based on what they have experienced of their students’ cultures from an insider’s perspective and with the help of the Hawaiian instructors as cultural translators.

Two male Japanese teachers described what they gained:
"I felt this course was very meaningful in tying in culture, values and practices along with Science and Environmental Studies... Also, it covered a wide variety of concepts and formed lasting social relationships and connections with each other and the ‘aina.’ I was able to really feel and understand who Pacific Islanders are. We were able to participate in activities and given so much information about their daily lives and how they view life and the world around them. From the sharing of culture as well as the activities, demonstration, and classroom modification suggestions, I feel I am better able to understand and adapt my curriculum to their needs."

A female Chinese high school special education teacher wrote: “The lessons and understanding gained through these courses were invaluable to me. I teach students primarily of Part-Hawaiian or other Polynesian ancestry and they have extremely low self-esteem. I have been given valuable tools to assist me in these areas.”

The emotional impact of the immersion experience on participants was unexpected. The request to teachers to evaluate their five-day experience was intended to record on videotape their response to this novel form of professional development. What we found was that almost every participant, whether teacher or instructor was deeply touched, many to the point of tears. What appeared to have happened was a shift from understanding Hawaiian culture from the outside and from perceiving Hawaiian students as anti-authoritarian or worse, unable to learn, to beginning to understand how to teach students through their culture.

Though participating teachers were required to develop and teach no more than one unit, many developed culture-science programs that spanned multiple units. What was significant was the level of collaborative work by most teachers, the high level of most projects, and the culturally relevant instructional strategies of cooperative and collaborative learning, teamwork, hands-on learning activities, integrated language arts, and assessment strategies that extended beyond pencil and paper tests to include research projects, oral and electronic presentations, the planting of Hawaiian gardens where none had existed before an emphasis on outdoor and community based learning. Science learning was connected to familiar places and themes of cultural importance. One teacher asked his 8th grade science students to form pairs to research, write about, build models, and present their findings on the relationships between environment and cultural development in Hawai‘i as compared to a tribe of Native Americans.

Many teachers developed partnerships with members of the community and post-secondary institutions to carry out their Malama programs. Some wrote grant proposals to fund their programs and support the participation and
learning of colleagues who had not participated in the professional
development program. Elementary, middle school, and high school teachers
took their students on field trips to study environmental issues in their
communities. The entire science department of one middle school participated
in watershed studies involving stream observations and water testing at
multiple sites. The fifth and sixth grades of another school engaged in an
all-day Watershed to Paiko Lagoon study that involved water testing at the
head of the valley and the stream’s exit into the ocean, and short hikes that
allowed students to note changes in plants and animals between the inland
and shoreline sites.

These science studies were associated with historical studies of the
ahupua’a, Hawaiian land divisions, in which their schools were sited and the
practices of the Native Hawaiians who lived there. Students researched their
genealogies, interviewing their parents and grandparents to find out their
family histories and geographical locations. Teachers found the Hawaiian
system of linking wetland taro farming with fish ponds especially relevant to
science content standards dealing with ecosystems, cycles of materials and
energy, and sustainability. They developed classroom models and full scale
models to clean up waste water from animal raising projects. An ag-science
teacher in Kona designed a large outdoor system linking his aquaculture tanks
to a constructed wetland ecosystem hosting Hawaiian food and fiber plants
and native stream animals. The nitrogenous wastes from the fish tanks served
as fertilizer for the plants and the water was recycled into the fish tanks,
reducing water usage by 90%. He called this a Bioremediation Learning
Center and had his students develop the text and graphics for signs for
self-guided tours. He and his students hosted over 3,000 visitors to his site
during his Keiki Fun Farm Day in March 2002.

Literacy of Place

Cross cultural professional development guided by cultural translators
to help teachers gain an insider’s perspective of another culture’s ways of
knowing, valuing, and transmitting knowledge appears effective in preparing
many to work more effectively with Hawaiian students. Over the 2001-02 year,
a majority of teachers continued to develop their knowledge base in
Hawaii-oriented science by enrolling in professional development programs
offered by their districts, the University of Hawaii-Manoa, and another Native
Hawaiian Education Act program developed on Moloka’i. These teachers
intend to use a culture-science curricular framework as a guide to designing
and adapting standards-based curricula to be more student-centered and
meaningful to Native Hawaiians as well as students who have grown up in
Hawai‘i. An entire science department in a Kona school is now working to
modify its course content and pedagogy after an ag-science teacher using the
Malama framework found that the retention rate of Hawaiian students was markedly higher than in traditional, textbook based science classes. The school serves a Native Hawaiian Homestead and administrators noted that Hawaiians were over represented in the 50% of students who dropped out between their freshman and senior years. The school wrote for and acquired a five-year grant to restructure the biology, chemistry, and entry level physics courses to be culturally relevant. The Malama teacher will teach a culturally relevant biology course over the 2002-03 school year.

With the start of a second cohort doubling the number of teachers and increasing the number of schools, Malama teachers working in two Honolulu P-12 complexes are planning to use a culture-science curricular framework to articulate among grades and schools and share resources. Where a school may lack Hawaiian gardens and aquaculture programs, another school in the complex may be able to provide them. Teachers at several secondary urban and rural schools on O‘ahu and Hawai‘i already have plans to develop their culture-science sites as learning centers open to other teachers and students. Teachers are going far beyond the requirements of the grant, suggesting that they have found a curricular framework that enables science (as well as social studies, English and mathematics) standards to be addressed in a way that is personally, culturally, and academically meaningful to themselves and their students. This view of connected, related learning derives from a Hawaiian perspective and their own experiential, immersion learning at school and community sites.

Teachers are empowered through sharing of colleagues’ accomplishments, creativity, and expertise. Instead of being provided with a preformed curricula, teachers use a core of culturally relevant knowledge and experiences to develop curricula relevant to their communities and students’ lives and futures. Cultural translators are essential to this revisioning of curriculum and instruction as they challenge the compartmentalization of knowledge and help mainstream teachers modify their curriculum and instruction to help Hawaiian students succeed in mainstream schools. Teachers met five times through the 2001-02 school year to learn more about selected topics and to share their projects as they developed. The frequent sharing of ideas was an important factor that supported large scale curricular restructuring. However, culture was a component of these subsequent meetings only in the sense that a culturally relevant plant such as taro was the focus; cultural translators did not play a lead role. The five-day immersion was the primary way teachers gained cultural experiences enabling most to acquire a Hawaiian frame of mind to develop and implement culturally relevant science curricula.
These findings support Gee, Hull, and Lankshear's (1996) view that "language, literacy, and learning can only be understood when situated in their social and cultural setting" (p. 1) and underscore the importance of cultural translators (Cheng, 1998) who have mastered conflicting discourses as the "the ultimate sources of change" (Gee et al, p. 14). Situated learning implies that teachers learn cultural literacy when immersed in and learning from members of the new culture. Based on sociocultural learning theory, these experiences provided mainstream teachers with the experiential knowledge base to connect meaningfully with culturally different students.

**Literacy Through Culture**

Though cultural immersion led by cultural translators may seem to be costly and complicated, if it helps mainstream teachers become more effective teachers of culturally diverse students, the cost is small compared to the loss to society when students drop out or fail because they find school learning meaningless to their lives and futures.

In the 2002-03 Malama cohort, cultural translators play a larger role through the year and more Native Hawaiian teachers have enrolled. The significance of cultural immersion, cultural translators, and teacher collaboration on curricular reform will continue to be explored. A multiyear study of professional development can contribute to a clearer understanding of the development of a teacher's cross cultural professional knowledge base, cross cultural literacy and curriculum development, and the characteristics of curricular reforms that are sustained through teachers' efforts.
APPENDIX E

A CONVERSATION WITH CURRICULUM

A WRITING EXERCISE FOR LITERACY
A Conversation with Curriculum

This interview with Curriculum was recorded May 22, 2004, Idyllwild, California, in Blue Wolf Studios, by Bren Littleton, after attending the 2004 International Reading Association convention, in Reno, Nevada.

BL: Curriculum, you’ve been viewed as a major contributor to the education of America for the past one hundred and ten years. Recently, at the IRA, you were criticized for your duplicity in modern application in both early childhood education, and in the higher grades. Much discussion surrounding concrete applications with a resurgence for quantifiable testing across all grades was questioned by those supporting a more qualitative, (w)holistic approach. What can you tell us about this renewed interest in your purpose?

C: This is a recursive procedure, one that continually spirals in centers of both politics, and of education. Now, though, a third partner of influence, one of multinational business, is voicing a position that has been integrated into policies that govern the former constituents of educational systems. Big Business has always assisted in the design of my application, but recently over the past twenty years, the strength of this invisible influence has seamlessly saturated the boards of school districts, and of the electorate alike, with a reconstituted message of industrial efficiency. This time though, the message is encouraging the development of an unsituated populace.

BL: Can you tell me what you mean?

C: I remember Addams Riis, back in 1890, thinking that overcrowded schools, and extremely limited curriculum inadequately met the needs of poor children. Poor children back then meant both immigrant nationalities, as well as U.S. born, English speaking kids, who were usually making the transition from rural, agricultural settings into the new industrial, company towns or burgeoning cities. The increasing demand for a readied work force started in the schools, both in terms of teaching skills that would assist transitions into the factories, but also in terms of what I was suppose to deliver as far as material. Education for the majority was really early training and preparation for the pending labor pool. I was asked to prepare little “Schmidt’s,” similar to Frederick Taylor’s ironworker experiment in 1911. Efficiency, linear units of study, balanced obedience of daily drills, bells, and teacher-centered activities were the norm. This defined the type of literacy required to move into the working world, where the student became an employee, and worked within a community of national gross products under the veil of American pride. Consumerism conquered even the most recent immigrant, creating a neighborhood of regular paychecks, and labor unions. People were bound together in a situation of common accomplishments, common high school
diploma, common national unity. Developing big business was good for developing the "US" into an international leader. School was sold as the place to attend, where one could get ahead in the world, where getting ahead in the world meant being selected, based on predetermined skills, by a corporation to work at even the most menial level while working up the pay scale. The parallel structure of getting ahead was recursively modeled: as school helped the student become a worker, the worker helped the company become a corporation, the corporation helped the nation become a rich country, and the rich country spiraled back to become a multinational. This model was defined as the best security in the world. What I had to offer at the time was a tradeoff, a compromise. I was the gatekeeper. I provided the translation from prior culture into the modern world. Politically, the modernist perspective of economic advancement was marketed as an example of a strong and talented workforce. This achievement was balanced between structured industrialism, manifest destiny, and open immigration. But what was good for the multinational, was not good for the student.

BL: But what about your idea of an unsituated populace?

C: I'm getting to that. While politicians were viewed as wise researchers when they deferred to education specialists transplanted from industrial corporations, the issue of politics in education was an issue for criticism even before I started making little Schmidts. Prior to Taylor, in 1892, Mayor Rice, of New York City, often debated that politics had to be removed from my development. The rise of Dewey's philosophy of the teacher imbuing vital, personal experience to develop student's intellectual abilities, as well as their imaginative, emotional, creative and social capacities, became the counterpoint, or at least an amendment to the industrialization of education. This type of comment sounds similar to today's conversations, yet the difference that propels the IRA's current attention at my work can be found in the lack of common ground. No longer does an employee's work equate to a common goal of a strong company or a strong nation. Being well trained or well educated no longer correlates to the security of doing good work. Good work is now out sourced. Schmidt no longer lives in the United States. No longer does the modernist goals of curriculum, of my earlier purpose, fulfill the possibilities that correspond to the international expansions experienced by the corporate system. Politics no longer has allegiance to issues within our national boundaries, just as business no longer has allegiance to our borders. My material has been reconstructed to appear to be useful based on democratic principles, such as preparing our young for the future, yet the definition of the future is incongruent with the practices found within education. And I believe it is these definitions found lacking in practice that have provided a means to return to Dewey's position. A deeper alignment with purpose, with
relationships, with connecting and community is seen as important in this time of new self-reference.

In the past, I have been asked to prepare students with skills that benefit a place outside of themselves, all the while, I have managed to propel the belief that these outside benefactors actually assist the advancement of the quality in their life. This system of abdication, of projecting meaningful success onto a structured economic deity has produced generations of student citizens, that instead of maturing into participatory advocates have at best, ripened into comprehensive consumers. Shopping is a convention of value. While students may not be trained to assist in the power of governing multinationals, they at least have been given a support role. Relationships and conversations have developed around shopping, with an entertainment industry created to convey the message to shop. Communities of skilled consumers believe they dictate market trends, just like they believe they dictate the outcome of their education. And while many students may no longer develop into employees that fabricate the products their consumer-neighbors purchase, they can at least develop into employees that sell the products, in the neighborhood mega stores, owned by meganationalists. This is where my old mandate of a closed system runs into the issue of the unsituated populace.

I have done well in perpetuating competency in the “number of units covered, mastered, accumulated,” as stated by Doll in his 1993 book. Fortunately, enough time has transpired to view the pattern of discourse emerging from my past classes. No longer are my prior students satisfied with their station in life. Their education towards service vendors no longer provides them the means towards consumerism. The new, full-time, working poor cannot afford to shop, nor can they afford to have their children revisit my previous criteria of industrialized standards. The standards only mask the inevitable conclusion that my modernistic form has been found hollow, and found useless to the legacy of literacy. The context of the way things connect in relationship is more visible to those not trained to easily see the larger message. The conditions of the poor in 1890’s are exacerbated as the new poor of 2004. The difference is being able to sense the pattern found within the space, the pattern between the elements of distilled wealth and the hegemonic policies to “groom one group and to marginalize and silence another” (Wink, 1997, pp. 42). A sense of wanting integration with knowledge, with understanding of the deeper structure, while not completely articulated by the populace, has still put the demand back on education, for lack of any other harbor. An unsituatedness exists in people. These people are my same students that I earlier trained to rely on education to help them transcend failure. They ran my course of obstacles, only to experience a dualism of reality. But now, in their ability of conversation, and in their inability for consumerism, they have returned as teachers to take a second look at what is really important in
achieving a self-reference, an inner directed view point, instead of an outer
directive one. They are exchanging the act to transfer into the process to
transform. I am now asked to be more personal, to provide connections. While
some call this a dialogic expression, I prefer to return to the definition of my
Socratic discourse. The rising issue, though, is the chaotic proportion of
people, both in and out of school that has no idea of the meaning to gain
self-reference. Without this understanding, the larger issue of transforming
into a situated-self translates into the inability to function within the
expectations of literacy. This is the basis of literacy, one that leads to
expression and advocacy, both useless terms in my modernist model.

BL: So, are you saying self-reference is the beginning of being situated in
place? Isn’t this more individualistic in nature? I thought you were discussing
the acts of community, the value of watching the pattern of space between
relationships.

C: That is exactly what I am talking about. I am returning to the event where
my prior work with Dewey stopped. Learning through seamless conversations,
returning to essential themes, engaging in questions and dialectics,
participation, as active, open systems are all dispositional. This can change a
person’s life into an open system, one far from equilibrium. While the terms of
situatedness depend on the individual to initiate, it is in relationship with the
community, with the other attractors and surrounding elements, that the
process of learning transpires. This process is the individualistic expression of
a larger, simultaneous version playing out on a global scheme; it is a personal
view of the inherent wholeness, of the relatedness and mystery found within
the self-organizing pattern of creativity and disciplined skill, which I can
ultimately provide as literacy.

BL: You talk about being far from equilibrium. I assume you refer this to mean
far from the existing power culture combination of politics, and business. What
other values run contradictory to this old system that can assist in maintaining
self-reference and situatedness? What are the risks left facing this
transformation?

C: Since relationships in politics are often the same relationships in
multinationals, and since both have developed strong relationships in
education, a rally to buttress their mandated control over my material has
enveloped public policy and procedures. Yet, as I have said before, the
modernist perspective has exhausted itself by not placing value in the small
inconsistencies that never self-corrected. Instead, the accumulation of these
little events did have an effect on the outcome of my material, just as it did
with respect to the new sciences. The parallel structure of predictable
unpredictability is prevalent, and undermines each assumption made by the
existing power structure. The center cannot hold, as the ratio for transformation slouches towards Bethlehem.

As far as support for my emerging material, I suggest you look for a richness and a rigor found within the integrative model. Richness, in terms of hermeneutic frame, applied with reference to culture, language, and multiple layers of deeply woven connections. Rigor, as Doll has said, may be defined in “terms of mixing indeterminacy with interpretation” (pp. 183). Perhaps a swelling of satisfaction or a fulfillment may be achieved through these processes, and will diminish the reliance on consumerism, or at least challenge the personal relationship so conscripted within our existing culture. This would be truly political, and would also provide interesting results surrounding the issues of those standardized tests you mentioned, in the beginning. My attention will be given to the conversation with students, and will subscribe to the notion of me being first among equals, a different stance from my previous platform. Finally, I also have plans for dancing, lots of dancing curriculum. Not the waltz, although its elegance is required, but probably dancing more akin to a twirling sufi, dervish-like, and unfolding, as if to pull each other in inverse ratio to the squares of their distance...something like a new force holding the universe together, but still using the same balance as I dance out of equilibrium, and into the indeterminacy of watching our unsituatedness resolve itself through letting go of that which no longer applies.

BL: Thank you for your time, and best of luck with a post-modern perspective, Curriculum.

C: The pleasure is mine in talking with you.
APPENDIX F

CURRICULUM MODEL BY DR. ROBERT LONDON

YUP'IK CULTURE AND THEIR KAYAK
THE MODULE: an excerpt from Dr. London’s paper:

The process of building a kayak in the Yup’ik culture illustrates three significant characteristics of Yup’ik mathematics. Firstly, the Yup’ik elders and adults with which we have worked consistently demonstrated the ability to effectively solve difficult problems arising in their day-to-day life, particularly problems associated with surviving in their harsh environment and climate. The history of the kayak as outlined in this introduction consistently demonstrates the ability of the different Eskimo groups to solve the problem of designing a kayak perfectly adapted for their specific needs and environment, in a way consistent with the best mathematics available, although they were not trained formally in that mathematics. As stated by John Veniaminov (1844), linguist, ethnographer, and missionary to the Aleuts: “It seems to me that the Aleut baidarka [kayak] is so perfect in its way that a mathematician himself could hardly add anything to the perfection of its sea going qualities” (page 222).

Secondly, the process of making a kayak demonstrates the significance of body measurements in the mathematics of measurement in the Yup’ik culture. The significance of body measurements in solving many practical measurement problems is not generally recognized in formal Western mathematics. Specifically, body measurements allow for measurements that are both “standard” and tailored for the individual. For example, as mentioned previously, the depth of the kayak, one ikugarneq, insures that the kayaker will be comfortable and also reasonably protected from the elements in the cockpit. The measurement is “standard” in the sense that all (or most) kayak builders in a given region use the same measurement, one ikugarneq, for the depth of the kayak – this “standard” (plus the other body measurements) results in the proportions of the kayak being in balance and resulting in a kayak well suited for the needs of that region. At the same time, using the body measurements for a particular individual will result in a kayak custom fitted for the individual. In addition, a Yup’ik always has his/her “ruler” (i.e., his/her body) readily available. It is clear that the use of body measurements in the Yup’ik culture results in an approach to the mathematics of measurement that allows them to solve many practical measurement problems very effectively.

Thirdly, the history of the kayak demonstrates the importance of collaboration in the Yup’ik culture in solving problems. Perhaps for survival reasons, the Yup’ik Eskimos consistently recognized the need to share ideas and collectively address problems connected with meeting their needs in the harsh Alaskan environment. The design for a kayak developed over many generations of addressing as a community the problem of how to build a kayak well suited for the conditions and needs of a specific region.
The activities of this module address these three characteristics of Yup'ik mathematics. Firstly, the students solve a series of problems, gradually increasing in difficulty. Beginning problems require them to focus on one variable (e.g., buoyancy), while later in the module they need to consider several variables (e.g., construct a small kayak-like vessel that is evaluated on several variables). Most of the problems not only require them to solve a practical problem (e.g., predict how much weight will sink a container for which they know the volume), but also require the students to apply what they learned to solve a related problem connected with kayaks (e.g., which of three hull designs will hold the most weight before sinking).

Secondly, the students experientially see the significance of body measurements in solving problems. For example, they study the relationship of a Yup'ik body measurement to how comfortable their chair is, and then identify measurements in their classroom that are consistent or inconsistent with their body measurements, and suggest at least one improvement in their classroom based on their observations. In addition, the students construct a kayak model (actual size) based on their body measurements and then explore the appropriateness of the measurements (e.g., is the cockpit comfortable?).

Thirdly, the students work collaboratively to solve problems, and discuss the strengths and weaknesses of their group work. In addition, there is an emphasis on the class collectively discussing the problems and helping each other to solve problems effectively.

In addition, a number of specific mathematics concepts and processes identified in the NCTM Standards are covered. For example, linear relationships are studied in the context of studying buoyancy. Students are asked to predict the buoyancy of a container based on recorded data for different size containers. When graphed, the data approximates a straight line, which the students "see" and draw in order to predict the buoyancy of the unknown container. Students gain experience with proportional reasoning in the context of constructing a life size model of the shape of a kayak based on a smaller model. In addition, in exploring the concept of balance, students again use proportional reasoning as well as using number sense and seeing patterns to answer more challenging problems based on the concept of balance.

PEDAGOGY

The major pedagogical approach in this module is to have students solve practical problems involving significant mathematics in cooperative groups and to reflect on their experience. Except for the introductory activities, each activity requires the students to work in groups on a significant problem. Each
problem involves mathematics identified as important in the NCTM Standards and topics judged as connected in a meaningful way to the Yup’ik culture.

Mathematics, in order to make sense to the learner, must be closely woven into a classroom curriculum that is of compelling interest. It must be part of the fabric of experience that makes up a child’s world. Activities based on Yup’ik Eskimo life are not only inherently interesting, but provide a broad theme that supports a great variety of approaches to the everyday life we all lead. Mathematics is part of that life and mathematics is embedded in the activities of the culture.

By doing these activities they learn to see how measuring connects to everyday life, they learn about the attributes of space-length, width, and thickness. Students learn to visualize, estimate, and measure. All of this is done both in a problem solving context, guided practice and demonstration, and through peer-assisted learning. Further, as students engage in these activities, we provide some of the cultural background that the Yup’ik elders associated with this project shared with us. Students will experience and learn about different aspects of Yup’ik culture and society.

In addition, traditionally in the Yup’ik culture, the telling of teaching stories is considered essential to the healthy development of the child. In our work, we have heard a number of Yup’ik adults relate experiences in their life when the remembrance of a story told them in their youth played an important role in solving a significant problem in their adult life. We have integrated a number of these stories into the module, particularly stories concerning Apanuugpak, a well known kayaker and warrior in Yup’ik stories. We have included segments from a number of Apanuugpak stories as told by Yup’ik elders. Also, we have included a story written by our writing team that we believe communicates some important characteristics of the Yup’ik culture, and also introduces the student to many of the concepts involved in the building of kayaks.

Finally, writing is integrated with the activities primarily through the technique of journal writing and group written reports. Journal are still of great value in classrooms, especially mathematics classrooms. Mathematics may be the subject where it is hardest to discover if a child is having trouble understanding the work.

How may adults do you hear say, “I never understood mathematics until I had to teach it;” or, “when I began going into the field doing hydrology, the mathematics I needed finally began to make sense to me.” Students who write about the math they are doing, the context, and the methods they are using not only give you, the teacher, insights into what they know and where they need help. They clarify their understandings for themselves.
Writing requires understanding. Mathematics writing can take many forms: reports of investigations, explanations of process, responses to problems. Journals are especially useful because they can be open-ended and personal. At all levels, especially primary, writing-or dictating to an adult-can help students see connections, gain insight into their own reasoning, and communicate their understandings.

It is not always easy to persuade students to write. Some take real pleasure in exploring their own thought processes or explaining a difficult problem they have solved. Others don't see the value at first. It is essential to react to a child's writing in a way that helps her or him know that you consider it very important, even if it is only a few words. Many teachers write back to the child as soon as possible, making it a two-way communication. With the child's permission, some of the writing may be shared with the class, especially when a student has shown insight into a problem the rest of the class is still struggling to solve. Also, with a child's permission, writing may be shared with families when they visit. Another way of encouraging writing is to start a mathematics newsletter that goes out frequently to friends and families. Some schools use information from journals on a web site and children contribute to the ongoing discussion of mathematics problems. A wealth of original mathematical ideas may be just waiting for a motivating vehicle for expression, and a journal may turn out to be that vehicle.

The module is organized into four parts. In the first part, students are introduced to the Yup'ik culture and the kayak through a story involving a Yup'ik boy who learns how to build a kayak under the guidance of a Yup'ik elder. In the second part, students are introduced to body measurements in general and how they relate to the building of a kayak. In the culminating activity for this part of the module, they make a life-size model of the Bering Sea kayak. In the third section, they explore some of the mathematics concepts underlying the making of a kayak, and, in part four of the module, apply those concepts to construct a kayak like vessel that is tested on a number of variables (e.g., speed, ability to hold a load). The last activity involves constructing a three dimension life-size model of the Bering Sea kayak.

**ACTIVITIES OF THE MODULE**

**Part 1: The Story of a Kayak**

In this section, the students are introduced to the Yup'ik culture and kayaks through the telling of a story titled "The Story of a Kayak." Although this story is not a traditional Yup'ik story, we believe it captures many features of traditional Yup'ik culture and the role of the kayak in that culture.
Traditionally in Yup'ik culture, the ability to listen well is emphasized. That emphasis is well illustrated in the following quote from Ferinand Sharpe, a former Yup'ik teacher during a working session of the project: "He (a Yup'ik elder) mentioned that in his day that when he listened to an elder or a grandfather that he had to be still when they were talking to you or teaching you. If you moved just a little bit like this, just a little bit, they'd say, 'How come you're moving around?' You know they are really observant. And I think it's very important that they have to be listening and be aware all the time. And that's what he's [an elder in recounting a type of river trip that could be dangerous] trying to tell us. Everybody in the boat has to be like that. Has to be listening all the time." Therefore, we emphasize the skill of listing well in this first section by asking the students to listen carefully, without taking notes, for information about the Yup'ik culture and kayaks.

The story is divided into four parts, each taking less than 10 minutes to tell. Therefore, the story can be told over four days, requiring only part of a typical class period for each day. This approach allows for a gentle introduction into the module. For each of the four sections, sample directions and observations are suggested.

In addition, in appendix B, we have included a traditional Yup'ik story, "The Crooked and Deformed Hunter" as told by Oscar Usugan of Tununak. Traditionally, the telling of stories was an integral part of the culture, and seen as an essential element in the child rearing process. Many times, stories would be told without comment or discussion. In the process of developing these modules, there were many times that a Yup'ik adult or elder would relate an event as an adult when they would recall a story told them when they were young. In that moment, they would realize the "meaning" of the story and apply it in that current situation.

Similar to accurate translations of the Grimm's fairy tales,"The Crooked and Deformed Hunter" has a rawness about it not typical of western children's stories. If the story seems appropriate for your classroom context, we suggest the reading of the story without discussion (but clarification of wording and terms that may be unfamiliar to your students) either in addition to, or instead of "The Story of a Kayak."

Goals:

1. The students will be introduced to the Yup'ik culture and some concepts concerning the construction of kayaks.

Instructions:
1. Inform the students that they will soon start a unit on mathematics based on the Yup'ik Eskimo culture, particularly the Yup'ik process of constructing a kayak. Let them know that later in the module they will be constructing and testing models of kayaks, and, in the last activity, will construct a life size model of a Yup'ik kayak.

2. Tell the students that you would like to introduce the unit by telling them a story "The Story of a Kayak" that will introduce them to the Yup'ik culture and the construction of a kayak.

3. Share with the students that traditionally in the Yup'ik culture, careful listening was emphasized. Tell them that during the reading of the story they will get an opportunity to practice attentive listening. Instruct the students that during the reading you want them just to listen (e.g., don't take notes) and that at the end of the reading you are going to ask them to recall any observation about the Yup'ik culture and any observation about kayaks.

4. Before each reading, write on the board and explain any unfamiliar words for your students. A list of possible words has been included below.

5. After each reading have the students individually or in small groups brainstorm any observations concerning the Yup'ik culture or the making of kayaks they have based on the reading. Then as a class record on the board and discuss the observations. Some possible observations are included below.

6. For the first reading, you may want to give some examples prior to the reading to help focus the students attention, or read the first part of the first reading and demonstrate observations based on that portion of the reading.

7. At the end of each section of the story give the students an opportunity to write in their journals their feelings concerning the story.

Teacher note: As mentioned in the introduction to the module, we encourage the students to keep journals as a way to reflect on the activities and deepen their understanding of the activities. In most of the activities in this module, suggestions are made when it may be appropriate to encourage journal entries; however, you are the best judge of when to create time during an activity to ask the students to reflect on their experience, and should feel comfortable initiating such writing even when not suggested in the instructions. Similarly, some of the suggested times may not be appropriate times for your class.

8. Below is terminology (by sections) that may be unfamiliar to you or your class. For section 1: nukalpiartaq = a great hunter; oasgiq = men's community
house; angalkuq = a shaman; Nakaciuryaraq = the Bladder Festival (described briefly in the story); quilraq = a story; nayiq = ring seal; uqiquq = a sharing festival in which a hunter shares the results of his first successful hunt [Is this accurate?]; issuriq = spotted seal; tungunquq = bearded seal; and akutaq = Eskimo ice cream. For section 2: adze = an axe like tool; and meligar = a knife with a bent blade. For section 3: Nunamiu = an inland dweller (e.g., Eskimo groups that are inland and hunt caribou). For section 4: no new vocabulary. In addition, the overhead transparency of the kayak for this section (and the illustration below) includes the terminology mentioned in the story.

[illustration of kayak with the following labels: ukinqucuk (round hole in front of kayak), ribs, stern, bow, keelson, stringers, gunwales and deck braces; also a transparency for this.]

9. Some examples of possible observations concerning the traditional Yup’ik culture include: Elders are respected; children listen carefully to the advice of elders and adults; animals have souls and one needs to show them respect; sharing is important in the Yup’ik culture; one should be careful not to waste food and materials; children support their parents in their old age; and patience is an important trait.

10. Some examples of possible observations concerning kayaks include: the frame needs to be both strong and flexible; a shorter (less depth) and wider kayak tends to be more stable then a narrow and deep kayak; body measurements were used to build the kayaks, allowing for custom sized kayaks (since the body measurement fit the kayaker); the wood of certain pieces was steamed to increase flexibility; the gunwales and ribs needed to be symmetrical; a wide, flat-bottomed kayak was highly maneuverable in calm seas but could not be handled well in rough seas; a V-shaped hull with widely flared sizes could prevent capsizing; and narrow kayaks tended to be fast but tippy.
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