Seeking the Soul of the Cyborg

Educational Technology as Passion : Play

An Arts-based Educational Research Experiment

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A Thesis
Submitted to the Faculty of Graduate Studies
In Partial Fulfillment of the Requirements
for the Degree of

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Dedication

To my mother and father whose stories

colour the world.

Acknowledgements

Abstract

Seeking the Soul of the Cyborg, Educational Technology as Passion : Play is an experiment in arts-based educational research. It is a theoretically informed fiction that utilizes playwriting as a critical methodology and illuminates matters of concern within the field of educational technology. Offering perspectives outside of the technical/rational discourse that traditionally frame academic inquiry into technology issues, it utilizes the language and processes of the arts to consider the nature of the pedagogical relationship in a virtual environment. Situated in a postmodern/post structural/feminist worldview, it offers an example of research generated within an aesthetic paradigm and illustrates the critical potential of an alternate discourse. Forms of text are juxtaposed and draw attention to the possibilities of multiple textual representations as vehicles to effectively explore and communicate a technology shaped educational experience.

Prologue

There is a point in the postmodern matrix of constructed worldviews where art, education and research intersect. It is a tiny speck on the three dimensional grid of possibility that in recent years has begun to pulse with energy. Located deep within the qualitative quadrant, it has emerged as a beacon of change. Each discipline carries with it invented boundaries defined by history and place. When they collide, something curious happens. Elements act and re-act to form and re-form. The fusion produces an intellectual ecosystem that is its progenitors yet a phenomenon unto itself as well. The essence of each discipline melds together to colour the landscape of the theoretical place and practical process that trains an aesthetic lens on the human condition. It is a lens that is arts focused.

Arts based or arts informed research is a recently envisioned locus of scholarly activity where methodological 'bricolage' dots the thoroughfare and shapes the side streets. Structures are consciously pressed into service and juxtaposed in order to "produce new ways to talk…and think"(Klages, 2001, p. 26-27). Systems are not assigned 'truth value' but seen as constructs that have 'play' and sway to accommodate the varied demands of multiple imaginations. The 'center' functions as an oscillating concept and can be initially disorienting but poetic street signs offer the trained eye opportunities to view perspectives previously out of sight in educational inquiry.

Its stuttering panorama provides adequate space to sustain a "culture of aesthetic inquiry" (Piantanida, McMahon, Garman, 2003, p. 182) that views method " less as a matter of precisely executed techniques than a matter of the philosophical assumptions that guide a researcher's thinking" (p.185). The values, behaviours and techniques

manifested within the culture function to retain a de-centering tension that serves to challenge certainties and recognizes the need for ever-changing categorization as questions of shifting power relations remain a constant. Its history is rhizomatically situated in postmodern/post structural/feminist discourse and acknowledges the many 'others' rendered voiceless in the dominant descant. Artistic processes and products are utilized for purposes that can range from data re-presentation to full immersion in another way of knowing where the goal is not discovery, but rather consideration of possible meanings. It exposes its subjectivity. It recognizes the affect of both the researcher and the researched as potent players in the educational process. It accepts the monologue but is more interested in the 'volatile spaces' created by the dialogue.

Those drawn to its fractured, partial perspectives are visitors/outsiders/immigrants from the culture of 'scientific inquiry' who recognize the necessity of reconsidering the boundaries of valorized knowledge construction. Omniscient objectivity is held suspect here as the culture embraces the concept of "situated knowledge" (Haraway, 1997, p.3) and seeks not uni/versal truth but "multi/versal" meaning (Gough cited in O'Riley, 2003, p.150). Arts based theorists see these disparate objectives existing as part of a healthy research continuum that encourages continuous/dynamic discourse in the field of education.

Central to the discourse is the issue of language. The language used in any mode of inquiry frames subsequent action. It is the task of the new paradigm to conceive scholarly language and concepts that do not replicate the hegemony of the structures that compelled its genesis (Slattery, 2003). This is an on going mission. As we struggle to come to terms with issues of definition of arts based research and consider possible

modes of evaluation, each foray into its depths adds perspective to the discourse and contributes to its maturation (Vallance, 1991). Imagining a geography contoured with questions that move in a non-linear arabesque is the beginning of becoming acclimatized to the intellectual environment that sustains this research. "Nomadic" thoughts (O'Riley, 1999, p. 32) rest long enough to examine the moment thoroughly, and then move on to seek connections in unlikely places. Rather than completely "designing" the experience, it will incorporate an element of "chance" (Hlynka, 1996, Postmodern Methodologies section) as it seeks to see the world from another point of view.

This research will examine the edge of the paradigm. In Ralston-Sauls's (2001) words, straddling the border lands, requires a "postmodern embracing of permanent psychic uncertainty" (p. 202). In both process and product, not much can be predicted beyond the point of departure. It is as though each initiate must set out with small fragments of loosely sketched maps to truly experience the constantly changing contours. Suggested structures provide some landmarks but ultimately each work must find its own footing. This research, articulates the fledgling step of an experiment that begins by acknowledging the illimitable possibilities of language and the author/ity of the reader as co/constructor of possible meanings; a partner on the journey, so to speak, a willing conscript in a campaign for change. Welcome.

Chapter One

Wondering

(About Questions that Don't Fit)

There is a moment when first sitting in front of a computer screen that a reflection is mirrored back. Mirrored in the monitor is a monochromatic, negative reflection of self. The details aren't clear but a spectral physical likeness appears inside the machine every time a user moves to engage. The image doesn't last long. Once the connection is sparked, it blurs as the user becomes one with the digital highway, traveling as fast as afforded technology will allow. The sights and sounds of new worlds are but a point and click away. The excitement is electric. Intoxicating. Everyone wants on.

Educators are no exception. Classroom practice at all levels of learning has been impacted by a system that embraces the machine wholeheartedly. Toddlers are introduced to software that teaches them to be better operators. Politicians and parents have thrown their resources behind technology as a necessity of the new world order, as a way of opening the doors to a democratic access to knowledge. Universities are equating technological advancement with building brighter futures. Governments consider early literacy in its functions a foundation skill, a key to educational success. Distance learning is the way of the future. It is now possible to acquire credit for advanced degrees from major universities without leaving the comfort of your own home. Indeed the computers sitting in many junior high labs are more sophisticated than the ones used to send a man to the moon. " One small step for man. One giant leap for mankind". The image of Neil Armstrong's bouncing steps on the surface of our nearest celestial neighbor is burned into

our collective imaginations through the wonders of technology. Without question, our collective imagination has, and continues to be, shaped by it.

We wake to digital alarms, drink from pre-programmed latte makers, and reach into fridges for genetically modified sustenance. It is clear that we can no longer see our technologies outside ourselves. They are our kitchens, our transport, our work, and our play. They are the way we think, the way we learn, and the way we interact with the world. They are us. We are cyborg. Willing, eager, organic matter fused with the ethos of the mechanoid. As we continue the promiscuous mating ritual of hu/man and machine, critical questions need to be asked about what that means for our progeny and ourselves. Have we adequately considered the possible trajectories of an unfettered assimilation? Are we conscious of what is being lost/displaced? Is there a democratic voice participating in its future development or is resistance considered futile, a naïve response to an inevitable evolution? It is the intention of this research project to consider these critical questions outside of the scope of the technical/rational discourse that traditionally frames the academic scrutiny of technology issues. Instead it will look to the language and processes of the arts to ask, can artistic processes offer future offspring critical perspectives in shaping their future? Can these processes pose questions beyond what can be measured, observed and managed? Are these questions relevant to educators? The title of this thesis is *Seeking the Soul of the Cyborg, Educational Technology as Passion: Play* and it reflects the research intention. As an arts-based educational research (ABER) experiment, this philosophical inquiry seeks to train an aesthetic lens on the nature of our cyborg selves.

It is the alternative possibilities provided by arts-based educational research that permits the wide-angle lens required to examine the ineffable aspects of this educational phenomena. With aperture wide open, consideration begins in relation to the big picture. As first world constituents of the Western knowledge project, we are faced with an ever-increasing explosion of new technologies and the modes of thought that accompany them. As a consequence, some ways of thinking are favored, others diminished. "Along with the hegemony of computers comes a certain logic, and therefore a certain set of prescriptions determining which statements are accepted as 'knowledge statements' (Lyotard, 1979, para. 4). Indeed, it is suggested that that the infusion of new technologies will change what we consider to be knowledge. In *The Postmodern Condition* (1979), philosopher, Jean-Francois Lyotard says

> The nature of knowledge cannot survive unchanged within this context of general transformation. It can fit into the new channels, and become operational, only if learning is translated into quantities of information. We can predict that anything in the constituted body of knowledge that is not translatable in this way will be abandoned and that the direction of new research will be dictated by the possibility of its eventual results being translatable into computer language.
>
> (Lyotard 1979, para.4)

What does this shift in understanding of 'knowledge statements' mean? What kinds of knowledge statements will be abandoned? Does this abandoning limit or broaden our scope of understanding? What happens to questions that don't fit or can't be translated into operational terms? Are they to be left unasked? Whose voices are silenced? Marginalized? Whose discourse is so pervasive, we call it the way things are,

the next step of our evolution, the inevitable shape of the future? In our technology shaped future, what will 'count' as knowledge? These are the questions that position/juxtapose the idea of "soul" and "cyborg", the praxis of art and technology. Traditionally they have been separated by discipline, however, for the purpose of this research they are viewed as symbiotic sisters, conjoined entities in an educational locus. If we look at one, through the unmanageable eyes of the other, what can we learn?

It is the persistently unmanageable quality of the arts that relegates them to the margins. Often dismissed as 'soft' or academically 'less', they are skeptically considered as potential contributors to the knowledge base. What the arts and their processes have to offer educational research is only beginning to be explored. Through early investigation, it became evident that the theory base for such an exploration has been developing gradually over the last century. Scholars from Dewey (1934, 1938) and Vygotsky (1925), to Barone (1992, 2001, 2003), Richardson (1993), Greene (1995), Eisner (1991, 1993,1994, 1997), Finlay, (2003), Kilbourn (1999), and Slattery, (2003) to name but a few, have made arguments validating the arts in education and more recently, for expanding the existing research spectrum to include ways of knowing that have previously been excluded or rendered invisible (Lather, 1986).

Postmodern/post structural discourse (Marshall, 1992) has raised consciousness of "situated knowledge" (Haraway, 1999) and stimulated investigations into how language and form are manifested as means of intellectual hegemony within the academy (Diamond & Mullen 1999; Dunlop, 1999). Can aesthetic inquiry potentially accommodate this postmodern consciousness? Can it offer a way into understanding what lies outside the dominant culture? Is this understanding of value to educational

technology? Currently in its embryonic stages of development, it is recognized that to claim a place at the bleeding edge of the qualitative research spectrum, proponents must find the means to describe it and to justify its significance. What is arts - based research and how can it contribute to the future of educational technology?

Arts-based research is a rather recent addition to the qualitative research spectrum. The last twenty years have witnessed "the emergence of alternative conceptions of knowledge and method [that] have problemitized traditional views of what research entails and have escalated our consciousness of its unexamined assumptions" (Eisner, 1997, p.263). This development has resulted in a "crisis of representation" (Denzin, 1997, p xi.) that has seen exploration and consideration of multiple processes and representations in scholarly research (Cole, 2000, Dunlop, 1999, Hock-Lovell, 1996). We are poised in what Denzin describes as qualitative research "sixth moment" (Denzin, 1997, p.250) where he posits " an intense period of reflection, messy texts, experiments in auto-ethnography, plays, ethnographic fictions and narratives of self"(p.xvii.). He proposes that multiple textual representations are necessary to authentically depict the fragmented nature of the contemporary technology shaped experience.

It is in validating the idea of multiple textual representations that arts based research finds its descriptors and support. Its advocates caution against dividing our perceptions of research into polarized camps of scientific and artistic, each with attending definitive definitions and instead suggest that it be seen as part of a continuum "…that ranges from those texts that exhibit many artistic characteristics to those that exhibit few" (Barone & Eisner, 1997 p.79). Diamond and Mullen (1999) add their voices to the call for a range

of modes of inquiry and attempt to articulate the potential of each path by drawing attention to the contrasting contributions. Whereas one researcher may seek objectivity, another may seek " to provide interpretive accounts of emotionalized experience"(p.40). While "scientific research emphasizes a formulae for researching certain truths, arts-based research invites the search for partial understanding" (p. 40). These contributions are not to be considered exclusively of each other but instead as partners in the quest for meaningful understanding.

Arts-based educational research (ABER) is conducted with purpose. It is an educational purpose. Searching to "enhance perspectives pertaining to human activities" and to "suggest new ways to view educational phenomena" (Barone and Eisner, in press, para. 2), it recognizes that form and function do not operate apart from each other. In ABER, the medium is indeed the message. Acknowledging this requires that the arts-based researcher consciously pay attention to design elements that shape their understanding of an examined phenomena. These design elements will vary according to the chosen art form and forces a shift away from concepts of definitive 'definition' to consideration of appropriate 'qualities' to adequately articulate a dynamic process. As an "umbrella concept...it prescribes no specific procedure" (Barone and Eisner in press, Kinds of ABER section) and stays open to possible contributions from the plastic and performing arts. Currently, however, most ABER works are literary in nature. It is with this in mind that Barone and Eisner suggest seven qualities that may be evidenced in examples of arts-based work (Barone and Eisner, 1997). These seven 'qualities' provide the foundation for an expanded description and discussion of their research function.

The authors acknowledge that language is at the root of the theory and practice of arts-based research. It is 'language' that frames the process and shapes the product of any research endeavor, however in arts-based research, the language of operation can take many forms. It can be the articulated gesture of the dancer's arm or the textured nuance of the artist's brush. It can be distilled into a poem or expanded into the detailed descriptions of the novelist's landscape. Whatever the purpose it evidences. "... the creation of forms symbolic of human feeling"(Langer, 1953, p. 40). It is the move to investigate the realm of emotion, intuition and imagination as sources of data and knowledge construction that preclude the certainty of the language of the traditional mode of inquiry. New landscapes require new terms of description. Barone and Eisner (1997) identify three distinct qualities of arts-based language; the presence of ambiguity, use of expressive language, and use of contextualized or vernacular language.

In an arts-based endeavor, the "presence of ambiguity" in the research presentation is noted as an advantage. Whereas traditional modes seek to eliminate ambiguity, arts-based research capitalizes on it and acknowledges the role of reader/audience as co-constructor of meaning. All is not said. Indeed, what is "not" said is often as telling as what is said. This allows for a " filling in of the gaps" (Barone & Eisner, 1997, p. 75) with personally meaningful perceptions that serve to further stimulate imaginative engagement. " The aim ...is not to prompt a single closed convergent reading but rather to persuade readers to contribute answers to the dilemmas within the text" (p. 75). This "indeterminacy" of end product (Pinar, 1975; Slatterly, 1995; Doll, 1993) envisions the text as an "open" stimulus for meaning making rather than a finite statement of discovery. The research can be process and product. This,

however, does not intimate that "anything goes" in terms of interpretation. The reader/audience must make qualified and justified meaning from the text.

These observations can also apply to other aesthetic forms. Whereas the artist, poet, choreographer or playwright starts with specific intentions, he/she constructs the presentation utilizing specific symbolic means to force fusion with audience perception. These kinds of experiences tap into levels of the intuitive and the emotive and often transcend verbal explication. As such, ambiguity, as a quality may produce nothing more than a "feeling" or "an awareness" that provokes reflection and transformation.

Another language characteristic identified by Barone and Eisner (1997) is the use of "expressive language". They suggest that the language of art-based inquiry is "metaphorical", "emotive" and "evocative". The researcher draws on rhetorical devices to enhance and express what is beyond text and "does something different from leading to an experience. It constitutes one" (Dewey, cited in Barone &Eisner, p.75). Thus, language used in arts-based research is more connotative than denotative and often more symbolic than representational. Dewey's claim that "…scientists state meaning and artists express it" (1934) suggest a possible symbiosis with traditional methods in function and contribution.

Drawing attention to the language used to convey ideas/structures and situations forces an awareness of its power to influence and shape experience. Forays into the realm of artistic language sensitize a researcher to the multiplicities of possible perspectives. To 'truthfully' capture the essence of a 'specific world' requires contextualized or vernacular language. The use of contextualized or vernacular language allows a researcher to honor the specifics and complexities of a particular situation. Using common language allows a

researcher to connect with the nuances of "culture in the raw" without constricting it to immediate academic translation. This allows the 'researched'(Lather, 1995) to speak for themselves and makes the results accessible to those outside of the academy.

Language is not the only point of consideration when describing qualities of artistic research process and presentation. There are other observable elements as well. The work of Suzanne Langer (1953) suggests the "creation of a virtual reality" (p. 86) as a significant quality of the arts. The power of good art is to " pull the person who experiences it into an alternate reality" (Barone and Eisner, 1997, p. 73). In experiencing that reality, they gain new perspective on taken for granted practices. If a reality is created with "verisimilitude" (p.74), be it fictionalized or not, the researcher is able to extend the reader's world beyond what is experienced and into the realm of what is possible. The transformative potential of such a journey is magnified when a reader/audience assimilates insights gleaned from "another reality". Ideas, situation, problems and solutions played out in "the virtual" world can be evaluated and considered as the reader/audience makes connections with their own situation.

The creation of "virtual reality" is not limited to literary representation. Langer details the ability of all aesthetic modes, dance, music, literature, drama and the visual arts to invite engagement with "created" worlds (Langer, 1953). Here an audience brings with them the sum of their knowledge and experience to understand and interpret the new environment. When skewed echoes of the individuals experience resonate within the created work, new perspectives may be acquired.

New perspectives are what are required if previously marginalized voices are to contribute to knowledge construction. Understanding the possible variety of methods and

cultural perspectives fosters a greater likelihood of their acceptance. An additional

characteristic of arts based inquiry is its ability to promote empathy. Art facilitates

vicarious participation in an "others" experience. Rorty emphasized the capacity of art to

allow us to see into the lives of those "outside the range of us" (cited in Barone & Eisner,

1997,p.77). Arts-based research allows the reader/audience to participate vicariously in

another life and offers the opportunity for deeper understanding of motives and action.

As such, it fosters the possibility of reduced alienation and marginalization. In the

increasingly multi-cultural, economically diverse world of today, this attribute is of prime

importance.

As arts-based endeavors help facilitate understanding of "others", so too can it

facilitate better understanding of "self/self in relation" to research. The "personal

signature" of the researcher/writer is a fundamental attribute of this type of research and

serves two primary functions. First, it recognizes the researcher's role in constructing the

results. It challenges the notion that researchers can stand apart from

emotion/bias/culture. Where traditional modes seek a neutral, objective observer, arts-

based projects acknowledge the always partial, situated perspective of the individual. If

the "virtual world" of the product is created with verisimilitude, then further meaningful

connections are possible because of, not in spite of, the reader's awareness of the

presence of the researcher's personal lens.

A second function of "personal signature" is its inherent recognition

of the whole being of the researcher. Existing research structures foster segmentation

of self and create a hierarchy that values cognitive response above all else. Affective

responses are purposefully ignored and indeed great pains are taken to ensure that they do

not "infect" research results. Arts-based educational research, on the other hand, taps into the contribution of the affective self and utilizes it as data to inform sensibilities as well as detail the desired aesthetic form.

The presence of aesthetic form is the last quality of ABER observed. Whereas traditional research is presented in a standardized format, the arts offer an array of possibilities to best articulate a specific phenomena. Each artistic discipline offers an opening for another shade of meaning. Although a sculpture, dance or drama may explore the same issue, each would present a different experience for the reader/audience to enter. These 'qualities' are not offered as a definitive list or template but rather as a tentative description of the processes that defy facile categorization.

Just as no single definition will adequately describe art-based educational research, no single method can confine its possibilities. Recent examples of arts-based inquiry have called themselves "heuristic" (Buttignol,1998 cited in Diamond & Mullen, 1999), auto ethnography, narrative ethnography, (Diamond, 1997) and interpretive ethnography (Denzin, 1997). The use of fiction in educational research has entered the discussion as well. Banks and Banks (1998), Diamond and Mullen (1998) and Eisner and Barone (2004, in press) consider the relationship between fact and fiction in social research and suggest, "...the line between fiction and non-fiction is not as clear as some might believe" (Barone & Eisner, in press). They leave the door open to its future considerations. As an ABER methodology, fiction is perhaps the most challenging to apprehend and requires a re-visioning of current structures.

It is in re-visioning the concept of systemic methodology that proponents have faced the greatest challenge. Attempts at marrying artistic processes to scientific process

have illuminated the necessity for developing alternative ways of addressing issues of language, disciplined inquiry, and rigor. The debates within the ABER community highlight the continued tensions in the field regarding these issues. Piantanida, McMahon and Garmon (2003) suggest the need to "sculpt the contours" by articulating a "philosophically grounded logic of justification" (p. 185) in order to address the thorny issues of legitimacy and credibility. Slattery (2003) responds by cautioning against using "… the tools of measurement of modern positivism and the scientific approach to education." (2003, p. 195) suggesting instead that

> We cannot use the master's tools to create our own structure.
>
> Thus I wonder if maybe we should be asking an entirely different set of questions. Can we evaluate ABER from a postmodern perspective and encourage border crossing, social activism, multiplicity, unauthorized methods, and unconventional styles? (p. 196)

The conversation continues as ABER scholars seek to broaden the horizons of scholarly understanding and articulate the unique demands of artistic process.

These demands and processes cannot be standardized. The rigor required to practice them cannot be separated from the work itself. Experience is at its root and the ability to gather "sense" data (Langer, 1953, p. 78) is an essential component. This requires attention to the lived experience. John Dewey (1938) recognized that all meaningful exploration happens in the lived moment. "…only by extracting at each present time the full meaning of each present experience are we prepared for doing the same thing in the future" (p. 40). The artistic researcher must remain awake to the offerings of the moment and not attempt to impose a pre-determined agenda on

experience. He/she must consciously strive for a state of what Donald Barthelme (1997) calls "not knowing". This is a terrifying prospect for those socialized in a world of pre-determined outcomes. It challenges issues of control and demands a level of engagement that transcends the cognitive. However, "without the scanning process engendered by not-knowing, without the possibility of having the mind move in unanticipated directions, there would be no invention" (p.12). Is there room for this kind of "invention" in an educational context? Can scholarly research structures facilitate/accommodate such intellectual exploration? What connections might be imagined outside of pre-determined structures?

The value of this type of inquiry has been slow to infiltrate the educational academy but there is evidence of gradual change. Philosopher/scholars such as Maxine Greene (1995) and Elliot Eisner (1991) have invariably advocated the value of the arts in education, but as recently as 1996, the Gardner/Eisner AERA debate regarding the notion of accepting a novel as a dissertation was conducted without examples to reference. By 2000, the AERA debate between the same two scholars had multiple examples to illustrate arguments. Advisors and graduate students articulated the challenges and possibilities of ABER. Included were a novel, a multi-media performance piece, and a videotaped narrative (Eisner E & Gardner, 1999). They illustrated the shifting attitudes of educators in the field and the desire to investigate other modes of knowledge construction.

The question now turns to the possibilities of ABER as an 'other' mode of knowledge construction in the area of educational technology. What, if anything, can it contribute to the discourse of the field? ABER research offers a means to manifest the

multiple, acknowledge the oppositional and examine the multi-levels of culture that underlie action. What are the multi-levels of educational culture that are impacted by technology? How does it effect the pedagogical relationship? What kinds of experiences are valorized? Minimized? Whose interests does a particular technology narrative serve? What are the values, ethics and meanings within existing technology discourses? These questions provide a postmodern through-line for the following discussion. Examining technology education through an aesthetic lens appeals to a postmodern sense of ironic juxtaposition. It illustrates the tension created between the concepts of soul and cyborg and forces consideration of the social, cultural and educational space that exists between them. What story/stories fill that space?

It is acknowledged that the cyborg is a next to dead metaphor (Bartsch, DePalma & Sells, 2001). As a creature who has metamorphosed into a tainted postmodern icon, she captures the dis/ease of the moment. She has become a referent for 'first world' excesses and has a seductive 'underside' that promotes the explosion of a cyber "netscape that is made on the backs of those who live in Third and Forth world landscapes" (O'Riley, 2003, p. 113). Many critics note her limitations.

> It is ultimately a figure relative to the First World conditions of techno
> Science and its attendant privileges and unwitting complicity with eliding the
> cultural trauma and devastation rendered on Third World cultures first by the
> imperialism of Western modernity, and second by post modernity's displacement
> of modernity. (Chow, cited in Bartsch, DePalma & Sells, 2001, p. 143)

She is not an innocent. Using a metaphor that has shown a life 'arc' serves the purpose of this research. As a creature 'with a past', she continues to embody existing tensions

perhaps more now on a material plane than a metaphorical one. She was manufactured by the military machine, captured by our imaginations, commodified and exploited, then rendered meaning/less when past her prime. Neither entirely organic nor machine, she functions at the edge of both worlds embodying the duality of a new millennium existence. On the one hand she is to be feared as she connotes the loss of our humanity. On the other hand, she is a step on the evolutionary ladder. She is a creature of parts/components that possesses what Haraway calls " an oppositional consciousness" (Haraway, 1997, p. 37). She is able to see the world from contradictory standpoints yet her arrogance at such a claim is now being challenged (O'Riley, 2003). How can she presume to see from an 'other' point of view? Aren't all her perspectives rooted in First world hegemony? Now in her fading glory, she reflects upon an existence with the benefit of hindsight. The intention of this project is to rejuvenate her life force and wheel the aging harridan into the classroom. Her role as cyborg crone is yet to be fulfilled. She becomes the storyteller, the bard. She begins each tale with " I see myself in you..." as she challenges our perceptions and acceptance of boundaries. As human/machine, male/female, public/private, her indeterminate nature at once engenders anxiety and transcendence. Yet beyond first flush, the organic and the techno are sisters of the same scheme.

As western social constructs, we see our organic selves as compartmentalized components. We are body, heart, mind, emotions each with attending functions and requirements: autonomous parts that exist separately and interact when required. We have modeled our education system on this worldview, attending to the needs of each component and tweaking delivery as demands adjust. The focus of the education system

is cognitive development and our machines are seen as extensions/representations of our cognitive function thereby ensuring a place in the contemporary educational environment. "Computers distinctly represent minds" (Yeaman, 1994) thereby the more we have and the more efficient their use, the better the chance at maximizing our cognitive selves. This is the business of today's schools.

New thinking however asks us to re-conceptualize how we perceive ourselves and our place in the world. "The common division into subject and object, inner and outer, body and soul is no longer adequate" (Heisenberg cited in Brown Taylor, 2000, p. 69). Haraway (1991) reiterates this point from a feminist point of view in *The Cyborg Manifesto.* Contrary to rejecting the machine, she suggests that by owning it, we step out of the garden of innocence, which seeks illusionary, organic wholeness and into an identity that can generate "antagonistic dualisms without end" (p. 45). She states that "we are responsible for our boundaries; we are they" (Haraway, 1991, p. 45). Critics suggest however, that perhaps Haraway's "utopian call" (Gabilondo cited in O'Riley, 2003, p. 113) predates the cyber explosion of the new millennium and therefore doesn't acknowledge the cyborg as " a hegemonic and privileged subject position of late capitalism" (p. 113). They posit that if 'we' are 'they', then the choice is with us to decide if we/they/us are to become " hard wired meat puppets…unconscious of the programs that are running them" (Yeaman, 1994, para. 13) or "prosthetic devices, intimate components, friendly selves" (Haraway, 1991, p.5). Yeaman examines the multiple ways we prove the label 'cyborg'. He presents arguments to prove/disprove the tensions in a postmodern consideration of technology and humankind's unquestioning dependence on it. Drawing upon personal observation he states " …technology inclines

people toward acting and thinking in a certain way" (Yeaman, 1994, para. 44). This 'technical rationality' values experiences and products in terms of performativity and fosters specific attitudes and values. Fast and efficient means better. He argues that our technologies define us and through their use some experiences are being "amplified" and others "reduced". This begs us to ask what experiences are being amplified and reduced in our nation's classrooms?

Since the cannon for educational practice continues to function on the "banking" concept (Freire,1970, p.72) then it is logical to assume that "...the social reality of mainstream educational technology creates cyborgs" (Yeaman, 1994, para.62). Efficient access to approved information leads to maximum results in a minimum amount of time with a uniform product. "All data are processed without subtlety or deviation until the right answer is found"(Yeaman, 1994). As educators, we are satisfying the nature of the mechanoid but what about the nature of the other half, the fragile consciousness that inhabits the organic? In fattening the one half are we starving the other?

In recent years, human beings have begun to articulate unhappiness with the disconnectedness experienced in a machine driven existence. What was once allowed as 'dream time' is now considered a waste of time. We multi-task. We time manage. We data manage. All around is overload of image, text and ideas, delivered at an increasingly accelerated pace. Stories are unmanageable 'blobs' and must be broken into 'chunks' and 'granules' so they can be 'meta-tagged' and 'repurposed'. The meaningless is mired with the meaningful and challenges us to figure out which is which. We are exposed to more image/text/information than we can possibly digest. The numbness that results from this

overexposure leads to psychological filters that allow only the surface reality to infiltrate before we crave more stimulation.

Simulated 'reality' is now prime time entertainment as we surf hundreds of channels and feel as though 'nothing' is on. Cyber communications allow us to keep the immediate world at a distance. Voice mail, e-mail, and cell phones are cyborgian appendages that create an illusion of contact and connection; an illusion of privacy while our emotional entrails are exposed to the panoptic gaze of our monitored world. We watch displays of grief that pattern our responses to tragedy. Sensational sound bites become our news and fit nicely between commercials that sell us a lifestyle built on obsolescence.

The machines have become the fuel in the ever-growing capitalist fire of the New World Order. Driven by the created desire to keep up, we buy more and more. Schools are not immune to these developments (Ferneding,2003). The desire is kindled by the demands of capitalist commerce and educational pressure. In most grades, a uniform, Microsoft product is the standard. Every time a child interacts with a computer is a marketing opportunity that is not missed by the corporate sector as they seek to 'interpellate' subjects to consumer ideology. As educators, do we have an obligation to include this consciousness in the literary process or do we operate under the illusion that the machine and the information/images are value neutral? Generally, it appears to be the latter. We are accepting technology as part of what is viewed as our inevitable future. This is the image of the cyborg that engenders fear. Fear that the autonomous, critically minded human being will be immobilized by a technological anesthetic; that the 'conscious' self will become so entwined with the machine and its mandate that those

choosing 'other' wise will be ostracized and subjected to pressures to capitulate. " Hey you!" says consumer culture (Althusser cited in Klages, para. 19). It's all about progress…about freedom of choice…paper or plastic? Window or isle? Cash or charge?…For your convenience…we will be happy to serve you…press one, two, or three…please wait, no human operators are available at the present….for your convenience…buy, buy. What stories must we invent to accept that these representations are for our 'convenience'? What fictions do we create to ward off further alienation? Do we choose unconsciousness? If so, why? What role can educational technology play in helping students develop a conscious self in relation to the machines?

Although 'the arts' and 'technology' are often considered opposites, " the values of one can be found in the other" (Davies, 1991, p. 97). An ironic kinship lies in the etymology of the word 'technology'. It comes from the Greek root 'techne' meaning 'art and craft' and 'logos' meaning 'treating of" (Avis et al, 1983). Art and craft applied. At one point in human understanding, 'technologia' and the arts were considered branches of the same tree.

Technology has come to mean 'science' applied and is a symbol of dominion over the natural world. While 'the arts', the realm of aesthetics, emotion and intuition have been devalued and viewed as superfluous in any serious investigation. Postmodern discourse leaves room however, to suggest that perhaps we have something to gain in rekindling the initial relationship. Perhaps acknowledging the Dionysian doppelganger will work to the benefit of both the arts and technology creating a symbiotic relationship that will recognize the value of an arts education and provide technology education with a soul. Postmodern technology educators recognize that without this soul, they are engaged

in the act of 'training' a generation of technicians in service of a scientific, corporate agenda. This agenda sees an education system where "logic, science and technology are used to control learning for material and practical purposes" (Nichols, 1991, p. 126). The cyborg becomes the slave and the machine the instrument of capture.

Can the arts offer a mode of thinking that illuminates a critical path and considers consequences of unfettered assimilation? Theorists from the arts and technology fields have articulated the need to develop means of educational criticism that exceed technical/rational concerns. Other ways of considering technology are being advocated, semiotic, illuminative, critical, and aesthetic (Hlynka & Belland, 1991.) This research implements an aesthetic mode of scholarship to consider the human/technology relationship in a pedagogical context. Operating on the border of disciplines, this mode of inquiry can best be described as the "Scholarship of Integration" (Boyer, 1990).

> The Scholarship of Integration is focused on developing perspectives on knowledge. It is…serious, disciplined work that seeks to interpret, draw together and bring new insight to bear on original research. This scholarship is represented by work on the boundaries of a discipline where it overlaps and connects with other disciplines and seeks to answer the questions, what do the findings mean? (p. 18 – 19)

Asking what the findings mean, opens up a Pandora's box of subsequent concerns as meaning is no longer sought in universals. Indeed it is the fractured, partial meaning of local perspective that reverberates with educational potential. The partial perspective is acknowledged and interrogated in this ABER project through playwriting.

A play, by its very nature, invites collaboration with individual imaginations to construct new, ever-changing possibilities. Each reader, actor, director and audience member, approaches the work with different intent and outcome. These outcomes are the sum of individual experience and cannot be homogenously predetermined. Indeed, in many modes of theatre, variation in perspective is invited/incited and serves to extend a dialogue rather than seek definitive closure. It is to be performed and therefore, what exists on the page is but a fraction of the intended whole. A play acknowledges the cultural semiotics that color and shade time, place and attitude and is "...among the various arts, the one in which the whole of human experience is co-involved...in which bodies, artifacts, music, literary expression (and therefore literature, painting, music, architecture and so on) are in play at the same moment (Eco, 1977, p. 108).

The playwriting process examines details of a given subject/situation and considers their relationship to each other. It illuminates/exposes/interrogates the values and power structures that are valorized within a cultural construct. This type of investigation serves to map the infrastructure of an idea/practice/worldview and "re-describe it" (Rorty cited in Bogart, 2002, p. 28). This re-description is "...the task of every artist and scientist" and serves to interrogate "...our inherited assumptions and invented fictions in order to create new paradigms for the future" (p. 28). What might these new paradigms look like? How might they serve our educational future? Will the soul and the cyborg be part of the same conversation? What creations are possible if we baptize her to the sensibilities of the human community? How might this effect the experience of educational technology?

...to feel oneself on route, to feel oneself in a place where there are

> always possibilities of clearing, of new openings, that is what we
>
> must communicate to our young if we want to awaken them to
>
> their lived situations and enable them to make sense of and to name
>
> their worlds. (Greene, 1995 p. 149)

Greene (1995) suggests "…the creative act aims at total renewal of the world " (p. 13) and that this renewal is rooted in a citizenry who can imagine alternative possibilities for themselves. In asking "what does a democratic citizenship and education mean in the postmodern time?" (p. 172), she suggests that imagination is at its foundation. " It is what enables us to cross the empty space between ourselves and those we teachers have called 'other' (p. 3). The 'empty spaces' are filled with questions that will determine the shape of our future. "What kind of intelligence is required to remedy homelessness and addiction" (p. 172)? This is an example of the kinds of questions educational researchers will be challenged with in decades to come.

It is a challenge the academy must be prepared to meet. Recognizing this, the ivory tower has opened a window. Multiple new discourses are flooding in. These discourses in the interest of social justice, are asking for more than a mirror to society and its structures. They are asking to speak the unspoken, make visible what is not and envision an education that is connected to a consciously lived experience built on relationship to self, community, and the planet. This research experiment locates itself in the wide-open space offered by that possibility.

Chapter Two

Working

(Envisioning the Lay of the Land)

The tyranny of distance between the discourses of the arts, educational technology and research is initially intimidating to even the most tenacious traveler. The concerns of the arts appear muted by the procedural preoccupations of educational technology and traditional modes of research. Upon initial investigation, expanses appear vast, sparsely traveled and often hostile. Many exploratory excursions through the literature are required before the landscape takes on a traversable shape. Repeated "recursion" (Doll, 1993, p.176) is called for as new understandings in one area offer shades of meaning in another not encountered on first contact. Considered first as products of a particular field of study, ideas take on increased substance and weight when considered in 'relation' to each other.

This review of the literature does not attempt to cover the expanse of terrain. It does not detail the contrasting/conflicting arguments within a field but rather stands on the borderlands long enough to articulate points of interdisciplinary connection that look generally in the direction of a particular point of view. McLuhan warns, "the partial and specialized character of the viewpoint, however noble, will not serve at all in the electric age" (McLuhan, 1964, p. 5). This concentrated gaze seeks to counter 'what will serve in the electric age'. If the goal is not 'to serve' but "to see"(Conrad, 1914/1967, p.59); then perhaps a prolonged peering through a crack will allow a limited point of observation. Rather than considering the pros and cons of a binary exchange, this admittedly, monocular review "rhizomaticly" (Eco, 1984 cited in Hlynka ,1991, p. 44)) snakes along

the meandering contours of interdisciplinary junctures seeking possible affiliation. When art, educational technology and research are considered as elements of the same eco-system, the spaces between, the paths connecting, are of primary interest.

Making connections in uneven terrain requires an organizational metaphor to provide some form of guide rope, something to hang on to when the road narrows or the rock face is too sheer. In this context, encounters with the literature take on the shape of a travelogue, a journal of experiences with roads that others have taken and the markers they have left behind. These works served as motivator, teacher, and sometimes guide. They offered more than the procedural and often pushed the boundaries in the realm of the possible. They 'scaffolded' a learning process and operated at the edge of student Z.P.D. (Vygotsky, 1925/1971). Hence, what follows is an 'understanding' of the ideas. A description of the material that acknowledges Ellsworth's (1997) application of "mode of address" and the "volatile space between" author/teacher intent and reader/student meaning making (Ellsworth, 1997, p.44). Offering theoretical reconnaissance, they lay the sod for an art-based research experiment in educational technology. It begins with an invitation to take the first step.

Paradigms Regained. The Uses of Illuminative, Semiotic and Post-Modern Criticism as Modes of Inquiry in Educational Technology is a collection of essays edited by Denis Hlynka and John Belland (1991). It corrals thinkers from around the globe to offer perspectives on critical issues outside of the positivistic, means-ends, systems approach that dominates the field. Offered as a 'third paradigm', this critical approach draws on the work of "Habermas's... critical theory" (p.7) but broadens the discussion to the possibilities of "what at this stage can only be described as a 'grab bag' of often different

interests, procedures and viewpoints" (p.8). Words like *connoisseurship, semiotic, alternative, emancipative, responsible, art, metaphor, conscience,* dot the table of contents and immediately suggest an exploration of what lies beyond the surface and an openness to experimentation. Semiotic, aesthetic, and literary investigations are discussed as ways to self-consciously access underlying assumptions of all manner of text/praxis and "provide insight and information which goes beyond the possibilities of scientific inquiry" (p. 9). The value of the "aesthetic, intuitive, experiential, and phenomenological " (p.9) to the field is considered in detail.

Indeed, the title of the book itself, suggests poetic connections. Borrowing from Milton's epic poems, *Paradise Lost, Paradise Regained,* the reader is pointed in the direction of the metaphysical. Presenting discussions of educational technology while conjuring images of the struggles of heaven and hell provides layers of meaning that situates the subject matter in a larger context. Milton's poetry written in the seventeenth century, accessed on-line, creates more than a syntagmatic connection with the contemporary term 'paradigm'. It appeals to the reader to consider the 'experience' of the text via the new technology and draws attention to McLuhan's notions of the medium being the message.

Receive thy new Possessor: One who brings

A mind not to be chang'd by Place or Time.

(Milton, 1677, para.11)

Conceptually linking poetry and technology, Hlynka and Belland (1991) set a tone that opens up the discourse to oscillating possibilities. If, as Blake and McLuhan suggest, "we become what we behold" (Lapham, 1994, p.2) then by offering a poetic influence, they

accommodate questions of what we are becoming and the role that technology and educational technology plays in that shaping process.

Belland (1991) begins the discussion with his paper *Developing Connoisseurship in Educational Technology* where he defines the concept of connoisseurship in relation to educational technology. Drawing on the curriculum work of Elliot Eisner, he describes the attitudes, attributes and applications of "the sophisticated internal preparation an individual brings to his/her experience of anything" (p. 23). A 'connoisseur' possesses increased sensitivities to "perceptual discrimination, concept development and concept hierarchies" (p. 31). These sensitivities, he suggests, need to be consciously cultivated. Belland observes " being a connoisseur in any field allows one to cut through all the distracting, trivial details and get to the heart of what matters" (p.24). He explains the difference between connoisseurship and criticism by referencing Eisner's succinct explanation, " connoisseurship is the art of appreciation, criticism, the art of disclosure" (p. 29). In critical scholarship, he contends, appreciation and disclosure are inextricably linked. "If there is to be an extensive effort to understand educational technology through criticism there must be a concerted effort to develop connoisseurship among its scholars and researchers" (p. 24). How is this 'connoisseurship' to be attained? He tributes Rorty in observing that "it is only as one is able to get "inside" an experience in all its richness and complexity… can she/he engage in criticism which yields new knowledge." This endeavor, "puts trust in a thinking person' rather than a procedure" (p. 8) and points to processes that allow for 'getting inside' rather than objectively observing.

Curriculum theorist Elliot Eisner considers the concept of connoisseurship in a broader educational/societal context in *The Educational Imagination* (1994). Here he explains the source, forms and functions of his idea and acknowledges that trends in qualitative research in education have taken the lead from " the work that critics have done in literature, film, music and the visual arts" (Eisner, 1994, p. 212). He notes, however, that very little investigation has been done in the type of qualitative inquiry that artists are involved in while working.

> Most of us who have used qualitative approaches have related their work to ethnography. Yet there is no area of human inquiry that epitomizes the qualitative more than what artists do when they work... Artists inquire in a qualitative mode both in the formulation of ends and in the use of means to achieve such ends (Dewey, 1950). The result of their work is a qualitative whole – a symphony, poem, painting, ballet ... (p. 212-213)

He goes so far as to suggest that "...the paradigmatic use of qualitative inquiry is found in the arts" (Eisner, 1994, p. 213). He is firmly accepting artistic processes as part of the qualitative research community and part of a process of nurturing the 'connoisseur'. Connecting 'educational connoisseurship' to 'educational criticism, he focus his attention on the development of the knowledgeable critic who he describes as "open to experience" (p. 213)", "... a student of human behavior" (p. 216) and " able to perceive the rules through which educational life is lived" (p. 217). Modeling the role of the connoisseur of curriculum, the rest of the work presents the author's critical appraisal of the state of educational thought and practice.

Contemporary educational thought and practice cannot be considered without looking at technology. Eisner tackles the subject in a discussion of the explicit, implicit and null curriculum. The idea of the unintentional 'implicit' curriculum places 'the school' in a larger, societal context. Recognizing that technology impacts the culture and thereby its institutions of cultural transfer, he grounds his comments in historical observations. He quotes Lewis Mumford (1938) from *Technics and Civilization* to make a point about the consequence of human/machine interaction. It is a quote worth repeating.

> One may define this aspect of the machine as 'purposeless materialism.' Its particular defect is that it casts a shadow of reproach upon all the non-material interests and occupations of mankind; in particular, it condemns liberal aesthetic and intellectual interests because 'they serve no useful purpose' One of the blessings of invention, among the naïve advocates of the machine, is that it does away with the need for the imagination.... The brute fact of the matter is that our civilization is now weighted in favor of the use of mechanical instruments, because the opportunities for commercial production and for the exercise of power lie there; while all the direct human actions or the personal arts which require a minimum of mechanical paraphernalia are treated as negligible. The habit of producing goods whether they are needed or not, of utilizing inventions whether they are useful or not, of applying power whether it is effective or not, pervades almost every department of our present civilization. The result is that whole areas of the personality have been slighted; the telic rather than the merely adaptive, spheres of conduct exist on sufferance. This pervasive instrumentalism

places a handicap on vital reactions which cannot be closely tied to the machine, and it magnifies the importance of physical goods as symbols – symbols of intelligence and ability and farsightedness – even as it tends to characterize their absence as a sign of stupidity and failure. And to the extent that this materialism is purposeless, it becomes final; the means are presently converted into an end. If material goods need any other justification, they have it in the fact that the effort to consume them keeps the machines running. (Mumford cited in Eisner , 1994, p. 93)

Social critic Ivan Illich reverberates these concerns for the quality of life nearly forty years later. Eisner looks to Illich to help analyze the impact of technology on educational structures and makes the point that the 'anticonvivial' (Illich 1973 cited in Eisner 1994) nature of the modern school, produces " a degree of neatness and predictability" (Eisner p. 94) that values order/efficiency over learning and communicates implicitly a hierarchy of intellectual processes. "Cognitive, affective and psychomotor concerns , and the 'reified' processes that are encouraged by the use of taxonomies for the formation of behavioral objectives" are "believed to exhaust the major parameters of mind" (p. 98). The "full range of intellectual process that human beings can exercise" (p. 99) is barely tapped as "school programs ..emphasize [a] restricted conception of thinking" (p.98). Eisner posits there is much to be gained by changing this attitude.

Many of the most productive modes of thought are nonverbal and illogical. These modes operate in visual, auditory, metaphoric, synesthetic ways and use forms of

conception and expression that far exceed the limits of logically prescribed

criteria or discursive or mathematical forms of thinking.(p.98)

Recognizing that the arts offer a contrasting/complimentary form of thinking, he states

that 'the study of [the] arts would, at least in principle, help develop a level of critical

consciousness that is now generally absent in our culture" (p.104).

Illich in his. famous treatise *Deschooling Society* (1970) extends the idea of

'critical consciousness' and technology into the area of research.

> We need research on the possible use of technology to create institutions which
>
> serve personal, creative, and autonomous interaction and the emergence of
>
> values which cannot be substantially controlled by technocrats. We need
>
> counterfoil research to current futurology. (Illich, 1970,section 1, para. 2)

Can an experiment in arts-based educational research offer that 'counterfoil'? Can a

deeper understanding of its processes contribute to the pedagogy required in shaping

Eisner's educational connoisseur? How do we acquire a deeper understanding of its

processes if we accept only the voice of the observer/analyzer? What might a pedagogy

of 'connoisseurship' look like?

Following Eisner's (1991) description, the pedagogy of connoisseurship

suggests essential attributes of the arts as they seek to nurture the qualities and modes of

thought that value "attention to nuance and detail "(p. 67), "epistemic seeing (a

shorthand way of referring to all of the senses and the qualities to which they are

sensitive", (p. 68) and "self as instrument" (p. 33). Literature on arts process is rife with

examples of methods and practices that educate the faculties of the discerning

connoisseur. In the realm of the theatre an example is the work of Anne Bogart. The book

Viewpoints (Dixon & Smith, Eds. 1995) is about Bogart, an American theatre director

and her approach to the craft. It is a series of responses/insights from colleagues/students

to her journey of inquiry and creation. In the opening essay, Bogart (1995) states "..the

creation of art is not an escape from life but a penetration into it "(p.10). Each subsequent

essay details how she goes about doing that. Contributing authors identify a method of

working described as "Source-Work, Viewpoints and Composition", however as soon as

these concepts are introduced they are followed with a caution. Tina Landeau, (1995)

tells of a

> ...critical step I had to take in relation to Anne methods ; to make them my own.
>
> To question them, refine them, expand them…as in the case with all systems or
>
> sets of rules, the danger lies in blind imitation of their form without fighting for an
>
> understanding of their essence." (p.16)

She suggests that Bogart's method

> Provide[s] a structure for the artist so she can forget about structure.
>
> They are there to free her up for the much more difficult, consuming task of
>
> expression, of getting in touch with and communicating the stuff of the soul.
>
> (p17)

> The challenging nature of the work is reiterated throughout the book. The sense

of detail and respect for an area of exploration is reflected in the level of consciousness

brought to bear on the process. It consistently strives for depth of meaning through

critical examination of multiple levels of a subject or idea. The physical, intellectual, affective tools of the student/actor/director are pooled in a 'company' atmosphere that challenges the facile and stimulates continuous scrutiny. To seek to outline her 'method' is to think of it in terms of an algorithm, a step-by-step process that will lead to a predetermined place. This is not the case. Bogart's 'method' is more a place of beginning, a series of questions/inquiries into a focused idea. It is a strategy that encourages the student/actor/researcher to investigate the *Source,* the *Viewpoints and* the *Composition* of an area of interest. Indeed, she states "the primary tool in a creative process is interest. To be true to one's interest, to pursue it successfully" (Bogart, p.76).

Bogart (2001) tells her own story of creating an environment that nurtures such consciousness in her book *A Director Prepares Seven Essays on Art and Theatre.* A deeply philosophical work, she states in her introduction that "…you can learn to read life while life is happening"(p.2). She tells of her awakenings to the value of resistance as a source of creative energy. Viewed as an ally, resistance can generate an "energy, …demand thought, provoke curiosity and mind full alertness" (p.141). A wide-awake ness ensues that asks the actor/student/researcher to access the 'right now'. " What you do *now*, what you make of your present circumstances will determine the scope of ..future endeavors" (p. 155). The ability to be cognizant of the elements at play in the 'right now' requires a sensitivity that can be cultivated and nurtured by an experienced teacher.

This is certainly not a new idea in education. Indeed, it reiterates the sentiments that John Dewey put forth in his 1938 work *Experience and Education.* Here, Dewey comments on learning experiences that have no resonance with the individuals

"conditions of life" (p. 48). He describes them as "non-educative" (p.47) and questions

their value. " What avail is it to win prescribed amounts of information about geography

and history…if in the process the individual loses his own soul…" (p.49). He goes on to

state

> We always live at the time we live and not at some other time,and only by
>
> extracting at each present time the full meaning of each present experience are we
>
> prepared for doing the same thing in the future. This is the only preparation which
>
> in the long run amounts to anything. (p. 49)

He validates intelligent individual agency within a social setting and suggests that

educators focus on a philosophy of experience that opens doors to thinking about the big

issues in education. It is through freedom of observation and of judgment that a learner

may cultivate his/her powers of observation and direct them toward a meaningful

purpose. He recognizes that observation must be supported with ways and means of

understanding what is being observed.

Consideration of "ways and means" of accessing underlying assumptions in all

manner of text leads back to *Paradigms Regained* and its second essay "Applying

Semiotic Theory To Educational Technology" (Hlynka, 1991). This paper places

educational technology as a subset of teaching/learning and suggests that teaching and

learning, if considered as art , can be studied through artistic and critical methods.

Semiotics, the study of signs and symbols, is presented as one such critical method. If an

effective educational critic deals in description, interpretation and evaluation (Eisner, in

press), then an understanding of the "arbitrary and culturally bound" (Hlynka, p. 41)

nature of sign systems offers another layer of understanding that encompasses "interest in

ideology, in socioeconomic structures, in psychoanalysis, in poetics and in the theory of discourse" (Scholes cited in Hlynka, p.41). These diverse interests describe a broad range of disciplines that pull away from the idea of the single focused expert and leads more toward questions of interrelatedness. "Semiotics is above all an intellectual curiosity about the way we represent our world to ourselves and to each other" (Sless cited in Hlynka , 1991, p. 1). Hlynka proceeds to examine possibilities for educational technology through a semiotic lens by envisioning an overlap with curriculum theory. Through this overlap, he places educational technology in the 'technical/practical' end of the "technical/practical/critical trichotomy" (p. 43) and draws attention to an absence of critical consideration. He recognizes that educational technology is "inevitably involved with communication, signs, codes and meaning" (p. 42) and proposes "semiotic, critical, connoisseurship and post-modern approaches" (p. 43) be considered to fully illuminate the potential of the field. As he outlines semiotic questions for educational technology, a number of concepts emerge; ideas of 'constructed text', 'the role of the reader', 'rhizome' as metaphor, 'text ...and its horizontal and vertical dimensions" (p.44-45). These concepts take us outside of a systemic, positivistic model and can be applied to uncover meaning in all areas of human endeavor, including art.

Umberto Eco (1977) does just that in his paper "The Semiotics of Theatrical Performance". He introduces semiotics as a process that allows us to examine ourselves through the "texts" we generate (p. 109). Eco dismisses those who see only objects/texts considered 'significant' as sources of information. Instead he tells the story of his experience with semioticians of architecture "who maintained that Palladio's villas are architecture while public urinals, log cabins and dog's beds are not" (p. 109). This, he

suggests negates the understanding that the language of architecture arose from the simplest of human desires . Demarking space with sticks and stones began the conceptual understanding that provided insight into the meaning of the human construct. It is in interrogating the elements at play in even the simplest of products that new understanding are formed. "What we ask a theory for is to give us back an old object illuminated by a new light..." (p. 109) . It is the "old object", the familiar, the taken for granted, the apparently naïve, that can sometimes yield the most insight. Eco states

> Semiotics can be conceived of as a unified theoretical approach to the great variety of systems of signification and communication, and in this sense it constitutes a metalinguistic discourse dealing with any of its objects by means of homogeneous categories, or it can be conceived as a description of those various systems insisting on their mutual differences, their specific structural properties, their idiosyncrasies – from verbal language to gestures, from visual image to body positions, from musical sounds to fashions. (p. 108)

Applying this understanding to theatre, Eco references Tadeusz Kowan to identify "thirteen sign systems at work in a theatrical performance. Words, voice inflection, facial mimicry, gesture, body movement, makeup, headdress, costume, accessory, stage design, lighting, music and noise" (p. 108). Each of these areas has a discipline and logic unto itself yet on stage they are placed in relation to each other. Using " a drunken man" as an example, Eco illustrates how the stage takes "the man " out of the context of "real bodies" among "real bodies" and thrusts him into a new arena of meaning. He is "no more a world object among other world objects, [he] is now a

semiotic device" (p. 110), a consciously constructed mode of communication that seeks to "show a story instead of telling it" (p. 107).

Eco goes further and examines the linguistic component of a performance. Acknowledging the words of a play as its "deep structure", he observes that " every dramatic performance is composed of two speech acts. The first one is performed by the actor who is making a performative statement – 'I am acting'. By this implicit statement, the actor tells the truth since he announces from that moment on he will lie" (p.115). These "lies", he infers, are the stuff of our social constructs. He draws a parallel with "on stage" and "off stage" when he says "I think that the elementary mechanisms of human interaction and the elementary mechanisms of dramatic fiction are the same...It is not theatre that is able to imitate life; it is social life that is designed as a continuous performance and, because of this, there is a link between theatre and life" (p. 111).

The idea of social life being a 'continuous performance', a construct with attending props and spectacle is discussed in detail by French literary and social critic, Roland Barthes. A 1972 edition of his *Mythologies*, contains 28 of the author's 56 articles that were written for a left wing newspaper. The author prefaces his essays by saying that "the following essays were written one each month for about two years from 1954 to 1956 on topics suggested by current events" (p.11). This suggests that these 'cultural observances' draw heavily on the author's lived experiences. In fact, the 'theoretical' essay is located at the end and " is not intended as a theoretical underpinning but to make more explicit some of the concerns that underpin them" (McNeil, 1996, section 2). Barthes focus his extended gaze on the meaning offered by the apparently obvious. He interrogates "manifestations of mass culture" and challenges " the innocence and

naturalness of cultural texts" (McNeil, 1996, section 3). In doing so, he seeks to uncover the 'myths' propagated by a power structure in the guise of " what goes without saying the ideological abuse which in my view, is hidden there"(Barthes, 1972, p. 11).

Indeed, in a critical examination of Barthes' work, McNeil (1996) postulates that "myth functions as a synonym for ideology" and suggest that Eagleton's definition of ideology provides an insightful perspective.

> A dominant power may legitimate itself by *promoting* beliefs and values
>
> congenial to it; *naturalizing* and *universalizing* such beliefs so as to render them
>
> self-evident and apparently inevitable; *denigrating* ideas which might challenge
>
> it; *excluding* rival forms of thought, perhaps by some unspoken but systematic
>
> logic; and *obscuring* social reality in ways convenient to itself. (Eagleton, cited in
>
> McNeil, section 5)

Barthes himself says ,"The starting point of these reflections was usually a feeling of impatience at the sight of the naturalness with which newspapers , art and common sense constantly dress up a reality…" (p.11). His criticisms of mass culture were intended to expose the artificial/historically situated/culturally bound nature of human constructs. He begins by recognizing that myth is a language and thereby contained in the general field of semiology. He turns this semiological eye on everything from wrestling, to Greta Garbo's face; from women's fashion magazines to Einstein's brain. His description of 'plastic' is an illustration of the author's poetic word play as well as an indication of his barbed, situated, insights.

> …Plastic…is ubiquity made visible…in the hierarchy of major poetic

substances , it figures as a disgraced material, lost between the effusiveness of rubber and the flat hardness of metal…plastic highlights an evolution in the myth of imitation material…the first magical substance which consents to be prosaic…Plastic is wholly swallowed up in the fact of being used; ultimately, objects will be invented solely for the purpose of using them…the whole world can be plasticized, …even life itself… (p. 99)

The verisimilitude of a 'plastic world' rings true for anyone who has entered a contemporary school and begs the reader to consider what Barthes would make of the experience. Certainly, he would see every component of the constructed space as representative of an ideology that suggests the values of the dominant culture. These values are propagated in the 'myth' it attaches to what it claims is natural/inevitable/the way things are. It is the function of the critic to illuminate the elements at play in formulating these attitudes.

Considering the function of the critic in relation to educational technology spirals us back to *Paradigms Regained* and its third essay titled "Whose Knowledge?". Here, instructional designers, Taylor and Swartz (1991) open the discussion with a direct statement of position. "Knowledge is not value neutral" (p.51). They dispute the "commonly understood" assumption that "instructional technology is a value-neutral method of conveying instructional information" (p. 51). Instead, they assert that it is situated firmly within the scientific worldview. The assumption that this worldview was generated outside of the political, economic and cultural is challenged. They go on to say that "science, technology and instructional technology…have influenced the way we view many ethical issues" (p.52). To illustrate their point they highlight the "excellence"

vs "equity" debate in instructional technology as an example of confined thinking. While the debate seems to be concerned with contrasting issues, according to the authors,

> These issues are primarily disagreements about how to distribute agreed upon static information. That is 'equity' and 'excellence' is part of a worldview that includes the notion that the established scientific knowledge base can be subdivided and redirected toward a pre-selected audience. This worldview does not assume a challengeable, fluid knowledge that requires constant review by different social groups within varying views as to what knowledge is pertinent to their world. (p. 53)

They describe a "crisis in confidence" (Greene cited in Taylor and Swartz, p.54) that questions the foundational assumptions of knowledge construction and opens doors for alternative ways of thinking. Outlining the "epistemological assumptions" of the social constructionist, they indicate, " that entities we normally call reality, knowledge, facts, texts, selves, and so on are constructs generated by communities of like-minded peers" (p. 55). Accepting this, they follow Kuhn in suggesting that "scientific knowledge is a social construct" (p.56). This means that universalizing principles no longer apply. Citing Rorty, who invoked Nietzsche, they propose that " truth is a mobile army of metaphors." utilized by the "strong poets" (p. 56). These "strong poets" articulate the competing worldviews of religion and science that have shaped Western culture. These "competing literatures", when viewed as such, open the door for other stories to be told.

According to the authors, this shift in thinking will be felt in the classroom. They suggest that "at a minimum, the classroom will become a place where knowledge is

created and recreated and where received knowledge, stripped of its epistemological authority, is closely criticized" (p. 57). The consequences of this 'metamorphosis' in thought and practice would result in social change as disparate groups make knowledge claims. The resulting ethical consideration asks, whose knowledge is to count and expose issues of power. The authors quote Foucault in observing that "Knowledge and power are mutually reinforcing. Ideas are created to extend the power of a group already powerful enough to judge and punish a second group they label as deficient or deviant" (cited in Taylor Swartz, 1991, p. 59). They close by bringing the discussion back to educational technology and questions of how it will/can accommodate " the requirements of fluid, multiple, knowledge structures" (p. 61) that address the needs of "other' learning communities. These questions are of concern in many areas of investigation.

In the realm of techno science, Donna Haraway, (1997) challenges "the material-semiotic practices of techno science ...in the interests of a deeper, broader and more open scientific literacy" (p. 11). Her book

Modest_Witness@Second_Millennium.FemaleMan_Meets_OncoMouse is "organized around the anatomy of meanings" (p. 14) and includes "interfacing and mixing narrative fiction, biological argument, historical analysis, political inquiry, mathematical jokes, religious reworkings, literary readings and visual imagery..."(p. 15). This heterogeneous mix of approaches asks the writer/reader "not to be literal minded, while engaging promiscuously in serious moral and political inquiry about feminism, antiracism, democracy, and justice in certain important domains of contemporary science and technology" (p.15).

The Haraway book is filled with ideas that bring critical concerns of the last century into the new millennium. Reducing them to a few paragraphs does them no justice however even a cursory indication of her thought process gives the reader a glimpse into the possibilities of broader considerations. She sets the challenges of the technological world in a multi-disciplinary place of ethical, social action and imagines a new role for education in that process.

> What if *Advances in Genetic Technology* were read in high school English
> class to illustrate the structure of foundation narratives as well as in science
> class to illustrate the structure of the natural –technical world? And what if the
> biology text were read in lab classes as itself a moral discourse and not
> just book with a wannabe chapter on the techniques of moral reasoning?
> What if the study and crafting of fiction and fact happened explicitly,
> instead of covertly, in the same room and in all rooms? Would the graduates
> of that pedagogy have a keener grasp of what it might take to build a practice
> of situated knowledges or strong objectivity, where the simultaneously enabling
> and endangering stories never slip from loving grasp within the daily toolkit of
> on-the-ground techno scientific practice? (p. 110)

Haraways concept of situated knowledge and strong objectivity are integral to formulating an understanding of her work and provide theoretical starting points for a critical examination of what she calls the 'god tricks' of positivist, techno science. "Situated knowledge" builds on feminist "standpoint theory" of Harstock and Harding (Bartsh, DiPalma, Sells, 2001, p. 128) but considers its difference "hinging on the conceptual and political difference between relative and relational" (p.132).

41

Standpoint theory is relative because any position other than that of 'abstract masculinity' is the best position, and thus the relationship between marginal standpoints is relative – that is no one position is better than the others, and all are relative to the view from the center. In contrast, situated knowledges theory takes ethical imperative from the ground that even the view from the bottom is 'not innocent' and that all marginalized positions are in relation to each other. Relationality is a dynamic and fluctuating comparison of not only marginal positions to the dominant one, but marginal positions to each other as construed through vectors of power. The ethical and moral charge here is the challenge and responsibility to recognize power relations between the marginalized and the marginalized. (p. 132)

These 'vectors of power' have no 'innocent' hiding place. There is always a tension and kinship between positions.

Middle-class women live the lives they do precisely because working-class women live the lives they do. White women and women of color not only live different lives but white women live the lives they do in large part because women of color live the lives they do.

(Brown cited in Bartsch, Di Palma, & Sells, p. 134)

Situated knowledge steps away from the valorized position of the oppositional and implicates the complicity of the relational. It is a "...doctrine and practice of objectivity that privileges contestation, deconstruction, passionate construction, webbed connections and hope for transformation of systems of knowledge and ways of seeing (Bartsch, DiPalma, & Sells, 2001, p. 134). This 'strong objectivity' is embedded in a

postmodern, feminist theory and is achieved through "…vigorous engagement with partial perspectives. The practice of feminist objectivity is about becoming…answerable for what we learn how to see" (Haraway cited in Bartsch Di Palma, Sells, 2001 p, 134). Haraway confronts the scientific 'culture of no culture' with figurative language and a 'pantheon of metaphors' that provokes response. She does not rest easy on any fixed point and is an intellectual daredevil who does not "dodge the world-making practices of forging knowledge's with different chances of life and death built into them"(Haraway, 1997, p. 37). Reaching high and low, she makes our world and ways transparent, and up for consideration.

Considering ways of the world is the stuff that theatre is made of. Theatre provides occasion for learning. However many theatre artists have engaged in their craft with overt didactic, political intentions. In his book *Theatre of the Oppressed* (1979), Augusto Boal begins by saying " all theatre is necessarily political, because all the activities of man are political and theatre is one of them" (p. ix). Boal reclaims the origin of the dramatic spectacle as one 'of the people' and challenges the Aristotelian notion of separation of actor/audience as a means of repression. In this philosophical work, he dissects what he calls *Aristotle's Coercive System of Tragedy* and concludes that it is a 'powerful system of intimidation' (p. 46) that is a "purgative system, the object of which is to eliminate all that is not commonly accepted" (p. 47). He suggests that once the act of creation is taken from the masses and placed on a stage to be performed by the few, it becomes a means of propagating dominant values and social control . In fact he states directly " Spectator is a bad word" (p. 154). It suggests a hierarchy that presents a finished vision of the world to a passive observer. Instead , Boal proposes that "Theatre

is action" (p. 155) and recommends a new theatre must arise. One that will offer

opposition and dissent " not only stylistically but in a much more radical manner" (p.79).

He suggests this idea is manifested in the critical vision of Bertolt Brecht.

A Brecht play takes us out of the magical world of illusion and shatters the 'forth wall'

The forth wall " is a term used to describe the sort of realist theatre that imagines there is

a wall between the action and the audience" (Stockman, 2004, para. 2). In theory, the

breaking of the wall allows the actors to directly address the audience and thereby include

them as more than spectators/voyeurs. Though Brecht favored this technique, he also

made room for the 'lehrstucke" or ' learning play' which "focuses on the choices we as

individuals make" (Stockman, 1994, para. 2) and serve a directly didactic purpose. He

believed that the moral and political lessons within the pieces were learned through

performance and that amateurs were to be the performers. "Brecht's experiments were

intended to create a thinking audience, ...an audience who could think and act critically"

(Denzin, 1997, p. 106). These were not to be the plays of the elite stage but the vehicles

for a participation in social change.

It is social change and educational reform that Karen Ferneding (2003)

discusses in her book *Questioning Technology, Electronic Technologies and Educational*

Reform. This book presents a study conducted by the author aimed at understanding

"how the dialectic between a technocentric, and that which expresses an alternative social

vision based on social justice is experienced by educational practitioners" (p. 17).

The author describes the rise of technology and its impact on educational reform in

American schools. Technology discourse, she suggests, has failed to recognize the

underlying tensions between the values of a social democracy and the values of the free

market. Ignoring these tensions promotes a lack of critical awareness that accepts technology as an unquestioned signifier of progress. Taking the political element out of the discourse promotes a value neutral attitude that ignores the "social construction of technology based policies "(p. 2) and the means-end objectives it promotes. These means-end objectives put "emphasis on standards and accountability [and] reflect the worst aspects of competitive capitalism" (p.3). Re-purposing flagging schools to serve the functional needs of the global economy sees teachers , students and policy makers as "viable target audience(s)" (p.3) for the latest technological solution.

These technologies are serving to de-limit the narrative spaces that allow educators to construct images of who they are. Advertisers and policy makers promote "the good teacher" as one whose "power is realized through pseudo control over the technology" (p.5). The alignment of education and technology with pervading corporate interests is causing concern among many educational philosophers. Indeed, Ferneding (2003) points out that "the dialectic between social democratic values and more functionalist interests is out of balance with the former eclipsed by the power of the latter's ability to name the crises and its attendant solutions in a manner that accommodates policy elite's interests" (p. 7). Suggesting technical solutions to technical problems serves to narrow and exclude other possible threads of discussion and to promote a sense of an 'inevitable' outcome that diminishes a positive sense of social agency.

Caught in the tensions of conflicting interests, teachers are challenged by ever increasing mechanisms of accountability as they struggle to reconcile the demands of the postmodern world with "their personal moral reasoning and tacit, experiential

knowledge" (Clandinin and Connelly, cited in Ferneding , 2003, p. 9).Given this state of flux, the author acknowledges that conscious engagement with the issues of technology infusion in schools "demands a highly critical awareness in relation to power, media and technology" and assumes our "understanding about technology reflects its true complexity within our society, when in reality the bias is to construct technology in a singular, uncontested fashion as a neutral artifact" (p. 8). Ferneding submits that critical questions about technology cannot be considered outside of a discussion of the larger social structures and indicates that our larger social structures are guided by "mythinformation". She cites Langdon Winner definition of mythinformation as "the almost religious conviction that a widespread adaptation of computers and communications systems along with easy access to electronic information will automatically produce a better world for human beings" (Winner cited in Ferneding, 2003, p. 11).

The narrative of a better world through unfettered technology serves the needs of an enterprise culture that equates amassing information with knowledge. Electronic technologies are the primary distributors of this information. The effect they have on the 'form' that the information is presented, and the values and thought processes it engenders are rarely discussed or problematized. She reaches to Jacques Ellul's (1964) concept of 'technique' to "express the consciousness of the mechanized world" (p. 6). "The term *technique*...does not mean machines, technology or this or that procedure for attaining an end. In our technological society, technique is the totality of methods rationally arrived at and having absolute efficiency in every field of human activity"(Ellul cited in Ferneding p. 60). The impact of this mode of thought in education is felt in the

classroom as "instruction must above all else be technical" and thus "education will no longer be an unpredictable adventure in human enlightenment but an exercise in conformity and apprenticeship to whatever gadgetry is useful in a technical world (Ellul p.349 cited in Ferneding p.60).

The author takes this level of critical consciousness with her to interpret how technology has impacted the specific situation of participating schools. She concludes her study with a powerful observation.

> The informant's technological pessimism may be a positive indicator that the dialectic between the technocentric perspective and that of the more traditional democratic perspective is still alive, albeit silent. And this is the most important point – the silence, the lack of a forum within which teachers and citizens can deliberate and thus engage in the possibility of praxis... In order for this possibility to become actualized and thus expand and open the social space of educational reform discourse, educators need to consciously work at creating a more democratic means through which the conversation can begin and be sustained. (p. 243)

Creating these spaces will be a challenge for those ensconced in a 'performity culture' and requires attitudes of 'professional courage' that sees active resistance as part of the arsenal.

Patricia O'Riley (2003) promotes the idea of active resistance in her book *Technology, Culture and Socioeconomics.* She makes it clear at the beginning that the dual threads of discourse in the field, identified as technology education and educational technology "are surprisingly similar – both narratives are momented by a dogma of high

tech, production, economic expansion and inevitability" (p.4). Based on research done for her doctoral dissertation called *Opening Technology Discourse to Difference: A Rhizoanalysis*, O'Riley (1999) examines how technology discourse in education "reverberate with the language and practices of the dominant culture which foreground commodity production, consumption and 'high' technologies, silencing and/or ignoring indigenous and other non-western epistemologies and technologies" (p.ii). Opening these areas to discussion, O'Riley creates spaces that make room for the subjective and encourages "a discourse of difference, a more vivacious, tactile and passionate engagement in a world increasingly being inscribed by and compressed into normalized discourses and anaesthetized virtual environments ..." (p. 12).

O'Riley's (2003) discourse of difference encompasses a rhizomatic analysis of existing thought and practice. The rhizome, she suggests is a "cartographic gesture of deterritorialization" (p. 27) which maps the dynamic and ever changing. Explaining the nature of the rhizome as a series of underground stems, she suggest the metaphor serves to affirm what is excluded from the systemic hierarchy of the western knowledge systems grounded in firm foundations. Drawing on the work of Deluze and Guattari, she asks "How it might be possible to reterritorialize technology discourses , which are increasingly devoted to integrating world capitalism , turning students into future compliant, docile, technothinking, technosubjects ready for their place in the global corporateocracy?" (p.24).

As the panoptican gaze of a culture of compliance sees students recoded as "soldiers of sameness" (p. 26) , she suggests strategies that break with "state thought" and "cause it to stutter" (p.28) . A form of rhizomatics, "Nomadic thought" she

intimates, accommodates difference. "Rather than analyzing the world into discrete components, reducing their manyness to the One of identity, and ordering them by rank, it sums up a set of different circumstances in a shattering blow"(Massumi cited in O'Riley, 2003, p. 29). Nomadic subjectivity challenges the habitual and normalized. It seeks an always shifting 'in relation' with boundaries. Nomads know how to "…experiment with creativity" (p. 29) and they give up the "safety of universals" (p. 30). Quoting Rose Braidotti, she says that "to animate a nomadic subjectivity requires a "qualitative leap of the feminist political imagination" (p. 3). This feminist imagination works " to create a figurative style of thinking , which is a politically informed way to 'think differently about the subject, to invent new frameworks, new images, new modes of thought" (Braidotti 1994, cited in O'Riley, 2003, p. 30).

O'Riley (2003) brings nomadic praxis to her scholarship. She draws upon her own voice, her own heritage to inform both its shape and content. She articulates the dis/ease of the conscious scholar looking for a research methodology that does itself become another form of coding. "Is there a possibility of curriculum inquiry that does not trample on the voices and bodies of others? Is it possible to engage in research that is ethical, respectful, reciprocal, communal, commensal, joyful rather than alienating (p. 42)"? As she ponders the illusionary world of traditional, western objectivity and considers Foucault 's arguments that such objectification "can be understood as practices of power/knowledge"(p. 42), O' Riley observes how these accepted practices "have turned everything into a resource for appropriation – females, the poor, Indigenous peoples, this planet, outer space" (p. 42). This objectification serves " to move the western knowledge production project forward, with westerners being experts on

everything and everybody"(p. 42). After careful consideration of existing methods, and acknowledging her position in relation to them, O'Riley consciously steps outside of the positivist research paradigm to create webbed connections rather than a totalizing narrative. She describes her process as "post paradigmatic" (Lather, 1992 cited in O'Riley, 2003, p. 44) and recognizes it as partial and locatable.

It is the idea of connecting, acknowledging, nurturing the disparate that inform the shape of her dissertation and the discussion of Plateaux in her book. She draws on the work of Deleuze and Guattari who wrote plateaux instead of chapters in order to "abandon any semblance of narrative argument exposition in favour of random, perspectival juxtaposition of chapters or plateaus" (p. 18). She describes each plateau as "...a different stuttering – a resonance, a vibration toward finding and creating holes in enclosed narratives" (p.18). From this methodological stance she positions her discussion of the pedagogy attached to high technology.

The ethos of problem solving, learning outcomes and systems thinking, permeates the discussion of technology in education (educational technology) and promotes a singular, technical/rational worldview. According to O'Riley (2003) , " the concept of knowledge that is mobilized is instrumental in the extreme and is concerned with control, privileging analytical and hierarchical thinking over holistic thinking while downplaying intuitive, emotional, aesthetic and spiritual dimensions of human experience" (p. 61). She calls this mode of thinking "technonarcissism" and proposes that the conversation expand to include what she calls 'equivalent technologies'. These "equivalent technologies" include conversations about the "technologies of every day survival; technologies of nurturance; technologies of sustainability; technologies of the

land that are more than the perimeter of western horizons; technologies of spirituality; and technologies of peace" (p. 157).

The idea of continued/contentious conversation is what is captured in her data presentation. As a researcher/scholar, O'Riley co-scripted *A Dataplay* as a "political act of affirming life by moving rhizomatically to break with our learned technothinking, technosubjectivities ..."(p. 121). Her play includes the voice of author/researcher/academic, the voice of theory/theorists, and the voice of participants. All of these contributions, however, are troubled through an interplay with the character of Coyote. Coyote provides perspectives outside of the dominant discourse and challenges through use of poetic language, and form. The cast of characters listed at the front identifies the actor who played the role of Coyote in the research process/play. His name is Peter Cole.

Peter Cole's (2000) doctoral dissertation is called *First Peoples Knowings as Legitimate Discourse in Education: Coming Home to the Village.* In it he asks "How can I be both indigenous and scholarly"(p.74)? This research project is a 321 page, epic poem/dramatic play/ narrative that utilizes a canoe metaphor to transport us to shapes, experiences and understandings inside and outside of ourselves. Its form and language viscerally communicate the limitations of western academic traditions to communicate the knowings of an 'other'. Even as English is used as the language of academy, as the language of this dissertation, so too is it critiqued as conveyer of attitudes that seek to categorize the author as alter/native. Refusing to accept this assigned position, Cole reclaims a cultural voice that has been muted/mutated by academic objectification. He

provides multiple descriptions to poetically illustrate the emotional impact of being seen as 'other'. His illustrations are presented through story.

> a woman from our community said   I do not want to use alter/native ways
>
> we are the mainstream   which is made of tributaries   my language and people
>
> are part of that stream   the tributaries are not greater or lesser than what they
>
> flow into
>
> we keep returning to the circle
>
> sometimes to one perimeter   sometimes concentric ones or spirals
>
> the computer technology teacher is always talking
>
> about 'being on the leading edge'
>
> in our culture the leading edge is every/where   not just in a terminal position
>
> that's very post-structural   she'd say   very post-colonial   (p. 84)

As a guest, the reader is invited along on an extended journey through the subjective, the analytical, the literal, the poetic, and the political.

> the poetic voice sings language dances and plays with it
>
> sometimes it is embedded in other voices
>
> melding its sound and rhythm polyphonically
>
> the dramatic voice is collaboration of land story and body
>
> storytelling is a way of seeing the world
>
> rather than the imposition of decontextualized denotative truth
>
> story is about historicizing culture enculturing history
>
> like poetry and drama   storytelling is itself interpretation   (p. 91)

Cole weaves a storyteller's sensibilities around the obstacles encountered on the long

distance trek. Issues and practices are confronted head on and deconstructed by

juxtaposing multiple voices in the same space. He states "creating is not communicating

it is resisting" (p. 95). By juxtaposing western epistemologies with his aboriginal

knowings, the author allows the traveler to participate in this act of resistance and

viscerally feel its necessity. Cole (2000) considers the role that technology plays in cross-

cultural learning.

> we are being taught to use the word 'technology' to describe computers
>
> artificial intelligence   robotics and other so called 'high' tech hard/soft/ware
>
> we are encouraged to forget   that we had our own 'technologies'
>
> long before contact   and we still have them language being
>
> one of those technologies (p.101)

Through vivid description he persuades us to consider the impact of high tech

attitudes/practices on the environment and peoples of the 'third world'. He asks, "Where

is the talk about ethics and morality" (Cole, 2000, p. 101). He suggests that the issues of

gender, socio-economics, race and environment are all part of the technology discussion

and need to be brought to the forefront. He uninhibitedly states opinion and the reader

accepts it as informed by experience and learning.

> If we adopt computers and the often neo-imperialistic world
>
> Of distance education for ourselves and our children
>
> We will find ourselves more and more assimilated more colonized
>
> Immured in/to the western rightwing agenda of 'progress' meaning
>
> consumerism (p. 102)

The politics of this research project are not hidden. The bias is clear. There is no intention at reaching for truth claims. Passions are a driving force and serve to stimulate a wide-awake ness in the heart of the passenger.

In the writing of my writing I do not always have the sensitivity

I might have if I were not on fire

 I do not throw these words out to injure or to shame

I do not throw them out to dis/integrate but to acknowledge

that there is in the world our voices and they are not 'other' (Cole, 2000, p 66)

As we paddle, paddle, paddle upstream against the mighty forces of the dominant academic/cultural /technical/rational discourses, Coles (2000) 'arts- based research' encourages us to imagine what is possible in our educational/social constructs. Yet , he leaves us by illustrating that existing academic structures are not organized to accept the possibility of difference. His abstract was considered too 'poetic', "too creative for a part of the thesis that really serves a mundane function" (p. 320). He was asked to adjust his format. As this scholar put away his canoe, it was evident that further journeys would be required as these 'mundane functions' remain unproblematized and are viewed as value neutral.

We return to *Paradigms Regained* (Hlynka and Belland , 1991) to be reminded that there is "no such thing as a neutral educational process" (Aoki, cited in Hlynka & Belland, 1991, p. 76). All educational functions communicate a worldview and serve to promote conformity to a system or to facilitate " the practice of freedom" by which human beings learn to "deal critically and creatively with reality and discover how to participate in the transformation of their world" (p.76). As the reader is introduced to

Suzanne Langer's (1942) *Discursive and Presentational Forms* , Baudrillard's (1975)

Precession of Simulacra, and Kliebard 's (1972) *Metaphorical Roots of Curriculum*

Design, it becomes clear that according to Hlynka and Belland, the discourse of

educational technology can only benefit from multiple perspectives. They conclude their

collection by embracing the critics of their postmodern, critical approaches and thereby

recall the spirit in which they framed their work.

> The first and wisest of them all professed
>
> To know this only; that he nothing knew.....

> (Milton cited in Hlynka and Belland, 1991)

To the end, this collection offers no claims of certainty, only explorations of possibility.

Finally, this literature review, in its approach, content and form, has attempted

to actualize William Doll's (1993) Four R's. In *A Post-Modern Perspective on*

Curriculum, Doll challenged the "pre-set functionalism" (p.175) that underlies The

Tyler Rationale and proposed, instead, a plan for a " postmodern curriculum – a

curriculum generated, not pre-defined. Indeterminate yet bounded, exploring the

"fascinating imaginative realm born of God's laughter" and made up of an ever-

increasing network of "local universalities" (p.176).

Doll, an educational philosopher, departs from the framework of purposes,

experiences, organization and evaluation to suggests the four R's. These include

Richness, Recursion, Relations and Rigor. Richness refers to the quality of material

offered and its the potential for depth. Recursion, describes a spiral pattern that lets the

learner "loop back on themselves" (p.177) to make meaning. Relations, cultural and

pedagogical, refer to the complex inter-relatedness of a transformative curriculum.

Lastly, rigor , which he describes as "purposely looking for different alternatives,

relations, connections" (p.182). These relations and connections have led to an

understanding that theoretically supports an art based research experiment. It is equipped

with this quality aegis that the expedition sets out.

Chapter Three

Wandering

(Making Space for Divergent Discourse)

**The Raw and the Half Baked
(A Pedagogical Passion : Play)**

Background and Synopsis

This is a story within a story. Two students ask their on-line teacher to tell them what counts as knowledge. He gives them a standard answer and when that doesn't satisfy he offers them a story. They enter it wholeheartedly.

The story takes place in a tomorrow that sees power resources threatened by an accident in a central transmission station. As a result, a full scale rationing of all electricity has been mandated. The political/corporate structures are panicking to repair the situation and the world at large is harnessing available energy for priority tasks only. Economic/political communication followed by pre-approved use is the standard of the day. This is a staggering blow to all universities who made on-line learning a primary focus. What was considered 'state of the art' technology sits idle as a solution is sought. The status of educators and researchers who operated in a virtual environment is now in limbo. This is where is story begins.

Elsi Margolis is a professor who pioneered the development of the on-line graduate program. As younger and brighter innovators took over the procedural aspects of its delivery, she turned her research interests to gathering narratives about its impact on individuals. She traveled the globe gathering stories from people whose lives were altered by the rapid infusion of information technology. An illness forced her to seek

assistance in compiling the research. She looked to a graduate student who had sought her out as an advisor.

Rea McBride sought out Elsi because of a paper the older woman had written. It inspired her to ask questions that other professors seemed reluctant to tackle. She took one of Elsi's on-line seminars and found her eccentric asides challenging however she intuitively knew that the older woman had the knowledge she wanted. She accepted the role of research assistant for what she thought were purely practical reasons. She hoped to gain information that would assist her in completing her thesis. The possibility of access to original source material kept her doing the 'leg work' that Elsi was no longer capable of doing. The two have never met face to face. Their relationship is a virtual one.

As the play opens, grid rotation is just occurring. It is their turn to be powered up. Elsi receives news from the administration that due to the continued shortage all future on-line access will be granted only through petition. This means an end to their on-line connection and hence an end to the research projects. With the limited time they have left, issues of concern are brought to the fore. As they navigate their way through the intellectual and emotional reactions brought on by an unpredictable situation, their relationship finds a new footing. Elsi decides to pass on her work to Rea. Before the transfer is completed, the power shuts down and both women are left alone in their embodied spaces. What happens next?

When the on-line story ends, the students reappear. They ask the on-line teacher to tell them how the story ends, however, the machine is 'down' and can't provide any answers.

The students realize that they will have to look elsewhere. The lights fade as they explore the possibilities.

The Raw and The half Baked
A Pedagogical Passion :Play

5

Projected on a large screen.

Welcome to Universal U.

10 On-line

All the Time

Two players enter and assume the role of students. One carries a metronome. The other a

rain stick.

15 We hear the tick tock of the metronome. Then the purr of the rain stick.

The sounds compete. They pit their rhythms against each other taking the emotion to

fever pitch. Before it escalates too far, the Teacher appears on screen.

On Screen Teacher:

20 Well hello. Getting started without me I see. What would you like to find out

about today?

Rain Stick:

Knowledge!

25

Metronome:

What counts?

Rain Stick:

30   I know!!!

Metronome:

   I know

35   **On Screen Teacher:**

You are asking big questions. Well lets see what I've got here. (He searches the

database) How about this?

A series of words appear on screen. The rain stick chooses some words. The

40   *metronome others.*

Metronome:	**Rain Stick**
Basic and Applied	Incredulity!
Causal Relationships	Deconstructing Claims…
Characteristics of Science	
Science, Social, Science	Culture of Aesthetic Inquiry.
Statistics	Language Shaping Landscapes.

Error Model

50   Bias, Noise

Error, Bias, Noise

Mean, Median, Mode

Percentage, Percentile

55   Random Error

Standard deviation, Structure

Method – True and Quasi

Experimental Design

Variable and indicator

60   Rival Explanation. Rival Explanation

Rival Explanation......

Feminist Girl Talk

Subjective, Affective

Contours, Constantly

changing contours

Uncertainty, Ambiguity

Post Structural

Interpretive Legitimation

Transgressive Legitimation

Leginimate Legitimation?
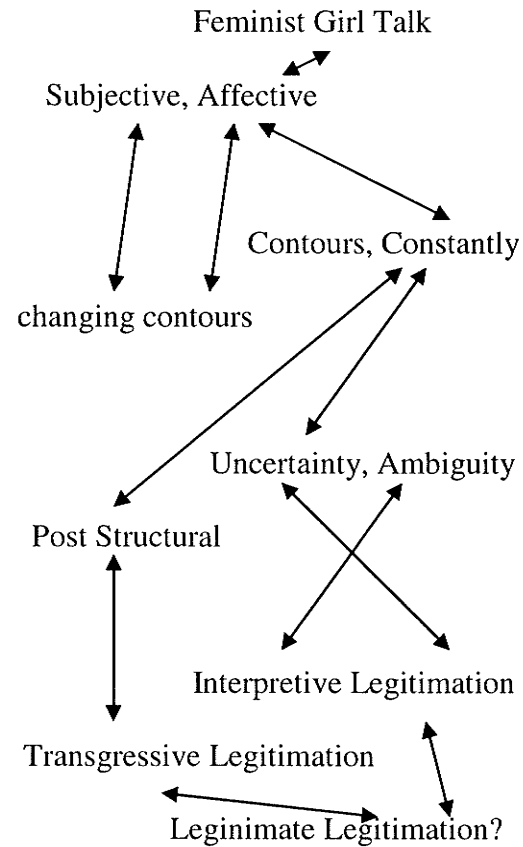
Rainstick: POWER!

65   **Metronome:** Who has it.?

Rainstick: (*confused*)

Who wants it? What counts as knowledge?

70   **On Screen Teacher:**

That's the question isn't it? You see really early on we learn that facts count. Fictions

don't because they're made up. So the really challenging task in this process of higher

learning is to determine what are the facts and what are the fictions. It's a lot harder than you might think. Try it.

75 *A slide appears. #1*

" Credibility is the extent to which information is understandable, trustworthy and logical" (McMillan & Wergin, 1998, p.7)

Metronome: Fact

80

Rainstick: Fiction

Slide #2

"Any theory or set of practices is dogmatic which is not based on critical examination

85 *of its own underlying principals" (Dewey,1938, 199, p. 22)*

Metronome: Fiction.

Rainstick: Fact

Slide #3

90 *" Education no longer has any humanist end or any value unto itself. It has only one goal to create technicians." (Ellul, 1964, p. 348)*

Rainstick: (*repeating)*

Education no longer has a humanist end or any value unto itself......

95

Metronome:

It has only one goal, to create technicians.....

On Screen Teacher:

100   Fiction or Fact? The binary box forces you to choose either/or. Tends to be how we like

to organize things isn't it?

Metronome:

Fact

Rainstick:

105   Fiction

Metronome:

True

110   **Rainstick:**

False

Metronome:

Good

115

Rainstick:

Bad

Metronome:

120 Us.

Rainstick

Us.

125 **Together**: (*to audience)*

THEM. What counts as knowledge in the academy?

On Screen Teacher:

You're not the only ones asking question. This research is the story of a phenomena so

130 pervasive in its epic scope that everyone is feeling its effects. You interested?

Metronome:

What's it about?

135 **Teacher:**

I think that's something you are going to have to tell me.

Rain Stick:

I like Stories.

140

Teacher:

All right then. Sit back and relax or perk up and pay attention What ever suits

you. This one begins with

145   *A slide appears with Once upon a Time in classic storybook script.*

We watch as the Rainstick and the Metronome become the characters of Elsi and Rea

– Teacher and Student.

150   *Sound.*

Heavy Rain.

Thunderous drops that speak of summer storm.

Heat.

Lights up stage left on the penthouse suite of The Ivory Towers.

155   *Elsi Margolis, a sickly, old woman , is looking through a box of old letters. She comes*

upon a cassette but no longer has a machine to play it. She finds a floppy disk in an

envelope and reads the letter that accompanies it.

Elsi:

Julie Kostenchuck.....

160   *She continues to read the letter with pleasure.*

Downstage right, Rea McBride is in a basement apartment   A cracked window is

propped open. A bucket is close by to catch the drips. Her full attention is focused on a

dog-eared book. A parrot is perched in the corner.

Church Bells in the distance. Both women react. The parrot begins to squawk.

165 *There is a loud hum of a generator engaging. All electric devices come on at once. Elsi*

registers a few bars of a piece of classical music. Both woman move to their computers

and turn them on.

Elsi types in a password. A message on the screen distresses her.

170 **Elsi**:

Oh No…Death by degrees

She angrily turns off the music. She considers the disk attached to the letter. She loads

it on to the machine and puts headphones on. The sound transports her.

175 *Rea waits as her slower system engages.*

Rea*: (impatiently)*

Come on..come on…come on……

Lights dim on both apartments and come up center stage. It is an on-line simulated

180 *nature scene, a virtual classroom that contains a computer monitor surrounded by*

papier-mâché rock to create a fire pit. A log is positioned left of it. As Elsi enters, we

hear a train in the distance. She listens, remembers…..

Rea bursts in.

185

Rea: What did Nietzsche mean when he said God is dead?

Elsi: Listen to that.....

190 **Rea**:

He means the center has moved, right? I mean whatever is the center of the

worldview ... whatever idea holds it together.. .. shifts or moves or people just don't

believe anymore so the idea, the concept, in this case God isn't doing his job so he's

dead Right?

195

Elsi:

That's the sound of a locomotive on the Ekhart Railway line. June , 1957.

Rea:

200 We move from God as the center of everything, to rational science being the solution and

savior of all things. To what? What's holding it all   together now?

Elsi: Instead of going straight home after school my friend Julie and I would hang

around the field and wait for it. We'd wave at the people going by and imagine the

205 places they were going to. Cities. Ports. Oceans at the end of that line. There was only

one track in and out of town and if your dreams were bigger than standing still then you

bought a one -way ticket as soon as you could.

Rea:

210   What's holding it all together now? In this messed up , postmodern, post structural,

fractured, feminist soap opera...

Elsi:

The quickest, easiest, way to reach a destination was to hop that single ribbon of steel and

215   ride it to its vanishing point. On the prairie, nothing interrupts the vista. Prairie folk make

good sailors because they know endless sky,....endless space.

Rea:

What do we have to hang on to? Commerce? Technology?

220

Elsi:

Took us where we wanted to go. From Point A to point B.

Rea:

225   What's the center?

Elsi:

A straight line. A straight and narrow line that cut through the landscape and gave us

cities, suburbs, town and country. It gave us the freedom to move from where we were to

230   somewhere else. They were the veins of the country. It was progress and we all believed

it to be true.

Rea:

No grand stories…

235 **Elsi:**

Trains

Rea:

To fill in where the others left off…

240 **Elsi:**

Tracks

Rea:

Just disjointed fragments…

245

Elsi:

The right side…

Rea:

250 Bits and pieces …

Elsi:

The wrong side?

Rea:

Bits and pieces. Our bits ……Their pieces…. Maybe that's a good thing?

255

The train whistle blows long and loud.

Both women cover their ears.

Elsi:

260 Screams at you to get out of the way, doesn't it? Look out! It's coming through and

nothing or no one is going to stop it. Not mountains, not water, not people. ...Certainly

not people.

They cut our grid time.

265 **Rea:**

What?

Elsi:

They are limiting low priority use until the issue is resolved.

270

Rea:

And we are low priority? (Elsi reacts in the affirmative) This is going to kill the

research isn't it.

275 **Elsi:**

I'm sure they're working overtime to resolve this as soon as possible. As soon as the

computers are functioning ... its just a matter of getting it all up and running again.

Meanwhile, time is allocated by petition...

Rea:

280   Petition. This is way worse than I thought. It's going to kill the research...Are you

kidding ...We will be the first thing to go... I'm too far down this road to do anything

else.... You're going to have to do something about it professor...

Elsi:

285   Me?

Rea:

You built the program didn't you? Can't you do something?

290   **Elsi**:

What would you like me to do? Crank up the generators?... dig a little hydro dam in the

parking lot? I designed the curriculum; I did not build the system that managed

transmission.

295   **Rea**:

This thing you and I have going on here... is way down the list of what people are

worrying about right now. As long as we're in crises mode, it's all about putting out

fires. Anyone who says they can do that, will move to the head of the class. We're toast

professor... They'll want an atom bomb not an Eight Year Study...

300

Elsi: There is nothing we can do about it ...

Rea: How much time?

Elsi: I'm not sure.. some time today.

305

Rea: We have today...

Elsi: Yes. We have right now.

310 **Rea**: Then we're done?

Elsi:

Until we can figure out how to keep this house of cards standing. I'd say, for the time being, we're done.

315

Rea: I'm not ready to be done.

Elsi: None of us ever are, my dear. Believe me.

320 **Rea**: Six months of research...wasted...

Elsi: Research is never wasted...

Rea: What do you think this is going to do to my chance of graduating.?

325 **Elsi**:

I don't know...I'm sorry about that. No one really imagined ...."this"... ...Access.

Anytime...Any place ....It was a good idea

Rea: Yeah, right professor.,.. no one ever imagined...

330

Elsi: Rea... I know you're upset but don't direct the animosity toward me.

Rea:

You talk about my not graduating like collateral damage in the big picture.

335 Who is going to hire me without that piece of paper? I have worked really hard to get

here. There has been a lot of sacrifice...

Elsi: Yes... I'm sorry. I don't mean to sound unsympathetic...this is hard on everyone..

340 **Rea**:

I was so close...I am tired of being poor. I'm tired of chipped cups and second hand

furniture. I want a car. I want a big screen T.V. with the extra cable channels. I want to

be able to get a tan on spring break...eat cherry tomatoes in February. Lots of other

people are able to do that...why not me? I was so close...I learned what they told me to

345 learn then. "Acquired the necessary skills". It's supposed to work out...

Elsi:

Yes. It was supposed to work out… there might have been a few things we didn't let ourselves think about …

350

Rea: (angrily) What am I supposed to do now…

(silence)

355   *The parrot begins to squawk in Rea's apartment. It repeats its opening speech in the alien tongue. It drags her away from the computer.*

Rea:

Yes, Humboldt…I hear you…I hear you…

360

Elsi: Hello?

Rea: Are you hungry? Thirsty?

365   **Elsi**: Are you there?

Rea:

I'm going to have to teach you some English words… Hello, Pretty Bird…

370   *The bird continues on in the foreign language.*

Rea:

You miss her too, don't you. I wish I knew what you are saying….Here.

She ties her grandmother's scarf to the perch.

375

Rea: That's better isn't it?

Elsi: Did you know that Michelangelo worked in Fresco?

380   **Rea**: I'm not sure I remember what Fresco is…

Elsi:

It's a technique where paint is applied to fresh plaster.

385   **Rea:** Right…

 Elsi:

It's how he painted the Sistine Chapel . A mason would apply the plaster, then when it

was still wet, Michelangelo would race up the ladder and paint as fast as he could. He had

390   decided how much he could do that day. Put it on craft paper, transfer it to the ceiling

then paint. His genius had to work against the clock. Think of the logistics! You couldn't

run down the ladder every time you ran out of ochre. Someone had to make sure there

was enough ochre up there. Whatever bit he was working on had to be connected to all

the other bits. There was the chemistry of the paint to think about, the engineering of the

395   structure and … the artistry ..the imagination…..It all had to come together.

The experience of it …elevates. I had thoughts of calling my next book *Letting Go of*

Michelangelo… (repeats quietly) my next book…

Rea: You been there? To the Sistine Chapel?

400

Elsi: Yes. I have. A number of times.

Rea:

I Googled it for a paper once. I could sort of see what was going on As far as I could

405   tell, the only thing he elevated was a patriarchal, Eurocentric story that maintained the

power of the stud quo.

Elsi: The what?

410   **Rea:**

It was politics. He served the Medici family, who also happened to

be The Popes of the time. He pushed the stories he was paid to push. I learned that in Art

History. See, I paid attention…sometimes. Lotta good that's ever going to do me. It isn't

even offered anymore. The professor retired and wasn't replaced. I guess they figured no

415   one would notice.. Gotta, save a few bucks wherever you can right? Bottom line....cost

effective...and all that.

(sarcastically) I suppose it's reasonable....given the circumstances, why it's downright

inevitable!

420   **Elsi:**

Yes. .. reasonable....inevitable. "There is absolutely no inevitability as long as there is a

willingness to contemplate what is happening" Who said that? I can't remember...It's

on the tip of my tongue...I used to be good at remembering things like that... It'll come

back to me....

425   Should we have a fire?

Rea: I don't really feel like it.

Elsi:

430   Come on. Let's plug him in and turn up the sound. We're not done yet.

Rea: (reluctantly) All right.

They proceed to turn on a computer monitor that is the center of the fire pit. A fire

435   *burns brightly on the screen. They listen to it crackle and pop.*

Elsi: Did you ever hear the story about Eisenhower and the first computer?

Rea: Here we go…

440   **Elsi:**

Well , Eisenhower, the 34th President of the United States, enters a room full of computers….and he puts the question to the machines "Is there a God?" Well the machines start clicking and burring….. and the lights flash and the wheels turn, and after a while a voice says, (delivering the punch line) "Now there is."

445

Rea: *(smiling)*

That is bad. A Techno god.   Definitely not a female deity.

"All rules and no mercy".

450   **Elsi:** Oh yeah…

(silence)

 I can smell the wood.

Rea: Me too.

455

(She contemplates the machine/fire. They begin the random connection that are made when the mind roams free)

Rea*:* Material is all man made.

460

Elsi:

Man made? No small Asian woman hands involved ?

No children in factories?

465   **Rea:**

I wonder if there has ever been a study done to determine the impact of plastic on the

human psyche?

Elsi: I'm sure …somewhere.

470

Silence.

The seduction begins.

Rea: It looks like T.V…

475

Elsi: or a window…. Looking in? Or Out?

Rea: Buttons…press to engage

480   **Elsi**: Illusions of control…

Rea:: 400…800…1600

Elsi: Faster, always faster.

485

Rea:

 Plugs...connections...networks...it all come from somewhere. A source.... Doesn't it?

Elsi:

490   The source has ruptured my dear. Mushroomed into infinite granules of partial sight. It's

hard to come to terms with, I know. We feel a profound dis/ease when we can't trust our

absolutes. Take a pill...take two ...

Rea: We can't blame the machine for that...That's society...We're the ones in control.

495

Elsi:

Ah yes... control...Free to choose what's behind door number 1, 2 or 3.

Do you feel in control right now?

500   *(Elsi is clearly not well. She fades back to her apartment for a drink of water. Rea*

continues .)

Rea:

Not particularly.

505   It still needs an operator… a user. Really, it lies dormant without input…Icons of the old

re-purposed to create a transparency…an invitation to what lies beyond. "Where do I

want to go today?" Envelopes and wings will take me . Me. I. (Pass I On) Passion.

(The object becomes the subject))

What/Where am **I** in relation to **you**?   Am I the puppet master? Or do you pull my

510   strings? Are you an extension of my intellect or am I your means to procreation? What

do you take and what do you leave behind?   Like the monster maker? The grave

robber…do you seek component parts? Eyes. Ears. Brain….Heart?

She notices Elsi's absence.

515   **Rea:**   Professor? Professor?

Elsi stands in front of the open window. The wind has changed direction. The rain is

coming in. She lets it.

520   **Rea**: Professor?

Elsi is sick. Dying. She takes a C.D. from the shelf. It is a precious one, a life's work.

She copies it into the machine, hesitates momentarily, and then sends it.

Her load is lightened.

525

Elsi:

" Day dawns, then comes the twilight grey,

The limit of the live-long day;

For weary people sleep seems best

530   *And all God's creatures go to rest."*

Rea becomes annoyed at being left waiting .

Rea:

535   I'm talking to myself out here. Helloooo.....

Are you there? Professor??? Teacher? I'm here in the front row with my hand up?   So I

heard a rumor of how this all happened you know. Stories are flying fast and furious out

there. Some are saying it's what the box cutter was to 9/11 only without the malice. A

low tech accident in a high tech place. Have you heard that ... Yooohooo....?????.

540

Elsi: *(re-entering)*

Yes, I have heard that ....There will be a hundred versions of it before we're back on

track. You should write them all down. Could add them to your research.

545   **Rea:** A new chapter..."Stories of stupid mistakes"... or .. "Making sense of Chaos"

Elsi: When I was in graduate school...

Rea:

550 Oh yes...the 'when I was in graduate school story'. You were a student what 30 – 40 years ago? They were heady days of intellectual exploration, right? You were guided by masters in their field who took special interest in your development and guided your growth. It's not like that any more. We're in business... haven't you heard? I am a client not a student. Changes the mindset wouldn't you say?

555

Elsi: Are you finished?   When I was in school, it wasn't any different ....

Rea: Really...I've seen pictures...

560 **Elsi**:

If you accept what is on the plate...then that is what you will get. It's never been any different...

Rea:

Given just enough grease to slide through with a minimum amount of noise ...keep the

565 machine in production....filling in the blanks...with standardized answers. More bang for the buck.

Elsi: Someone has to pay for those big screen T.V.'s.

570 **Rea:** Touché

Elsi:

They are costing us more than we figured.

575   **Rea:** I have been taught to accept what's on my plate.

Elsi:

I know that. I know that. Taught how not why… We adapted …to think like…speak

like…feel like…the "wonder" we let move into our "living" rooms. It made seductive

580   promises. We shape- shifted to accommodate its needs. It was going to let us build a

brighter future and it did. For some. For Few…but for the "many', well that's a different

story . That's a story we don't want to hear. "Why" we forged ahead was never seriously

considered because ….really…the machine doesn't understand the question…doesn't

understand why… it demands a rhythm that leaves no time to consider why…

585

Rea:

If it did….maybe it would answer .I… "because we can." Because we can …we do.

Elsi: More, faster better…We educated our best minds to those stories.

590

Rea:

There are lots of people who want to learn something more, something different……

we're waiting… for some direction…some inspiration…

595   **Elsi:**

Inspiration? (*she laughs loud and long)* Ask yourself, Who sold you the story that an education can be delivered to you like so much fried chicken? It is and always has been something you have to seize…to actively pursue, it is not handed to you. Anything that tries, no matter how convenient and pre- packaged the form, think twice on it. I learned

600 that the hard way.

Rea: Like I have a choice about what I'm going to learn…

Elsi:

605 Of course you have a choice. What are you a gnat? But you don't want that choice. All you really want is the grade at the end. You aren't really interested in what I think or whether your work is any good or not. You feel you've bought your A+ with the price of the course. And I damn well better show you how to get that grade or somehow I have failed as a teacher. So what I say to you is…Inspire me… young lady. Inspire me.

610

Rea: Some people would say that you are being paid to be the one doing the inspiring.

Elsi:

Yes some people would say that. The same people who would mandate an

615 operational definition of inspiration. An algorithm – one size fits all…I know the mind set well. Built a career on it.

Beat .

Rea contemplates what she knows of Elsi's work....

620

Rea:

How did you get from there to here? I mean your research now feels like.. the opposite .

Elsi:

625 It's just telling a different story. We donned our mathematical vestments and shaped the

world accordingly...We told the stories of 'the culture of no culture' and they fit the

machine beautifully.

Rea:

"Culture of no culture"

630 Knowledge as object outside ourselves.

No bias. No time. No place.

Elsi: People of action who appear...not to be involved in the action.

635 **Rea**:

The culture of no culture. I like that.

You know professor, it took me a long time to earn your interest. God knows why I

wanted to. Why I didn't just cruise on by to the next thing on the assigned course of

action. Why...why did I stop here?

640

Elsi: Well ...why did you?

Rea:

I don't know. I've asked myself that question and I don't know... Why does anyone

make a conscious choice to leap into the deep end? Because, it ... feels good. Like

645   you're waking up to something. And it feels ...important, significant...I think you

might have had something to do with that.

Elsi:

Really? Are you commenting on my pedagogical techniques? You give me too much

650   credit.

Rea: Maybe.... I think you like the noise I make.....the questions I ask.

Elsi: Now maybe you're giving yourself too much credit.

655

Rea:

A "how does it feel kind of question?" and you know that asking how we "feel "

about things is terrifying, because as soon as we really consider that question , we have

to admit that so many things we have surrounded ourselves with are anesthetizing us to

660   feeling ....anything...but boredom.... We are hard-wired meat puppets. How do we

reach/teach through that?

(silence)

Elsi: Do you have a family?

665   *(silence)*

Elsi:

It occurs to me that you've been my student for a long while and I don't know much

about you.   I know you write well, have a 4 point average and a penchant for hyperbole

670   but … not much else…

(silence)

Elsi: I'm sorry, I don't mean to pry.

675   **Rea:**

No. It's O.K. I lived with my grandmother…have for most of my life. She had no idea

what I was doing in grad school. She'd see me doing my classes on–line and she'd just

shake her head. "How can you know what your learning is any good, if you can't look the

teacher in the eye?" she'd say.

680

Elsi: I think I'd like her.

Rea:

She died… A few months ago…. Two days before Christmas. We had been in

685   SuperStore that day and the machines were down…chaos, you know ?….Christmas rush

and everything…the place was jammed and everyone was really stressed. She had the

exact change in her hand and could not understand why the clerk couldn't take her

money. I explained UPC codes to her and inventory control but it was all too much .

"Don't they trust the girl with the $4.00? " We stood there for twenty minutes. Have a

690   nice day Ms.McBride. "How does she know your name she asked? You never seen her

before in your life." She didn't get it…

Elsi: I'm sorry.

Rea:

695   She was old. She'd sit all day singing songs to her bird. She tried to teach me the words

… but I didn't have the time, you know? Too much effort. I was busy learning other

things. Now the bird is the only one that sings them…

Elsi: That must have been difficult for you

700

Rea:

Difficult? (struck by the understatement) Yea, it was…difficult.

(silence)

705

Rea*:*

You know professor, I gotta say this…Major stuff is happening and you talk about it like

its over there…not right here. Not looking you in the eye…not rattling the cage. Doesn't

any of "this" bother you?

710

Elsi: Is that really what you want to know? Whether I am 'bothered' or not?

Rea: Yea...sometimes.

715   **Elsi:** Would that change anything?

Rea: I don't know.......maybe. Maybe sometimes I need to see the whole human being to understand what drives an idea...

720   **Elsi**: I'm asked to be an expert in my field...

Rea:

Expert...expertise... Know a lot about some things .....and forget entirely about others. We need to find the intersect Professor. Between expertise and collective wisdom.... that's where I'd like to sit for a while.

725

Elsi*:* Is there such a thing...such a place?

Rea:

Just sit...and think...listen... imagine what it felt like to listen to rhythms not driven by

730   the clock.

Elsi:

A place of Being ....I'm not sure that's possible anymore.

I want you to continue the research.

735

Rea:

Well I want to continue the research too but I don't know how that's going to be possible

now...

Elsi:

740   I've sent you everything...   You can continue the work on your own. Until things are

back up and running....

Rea: Everything?

745   **Elsi:** Yes.

Rea:

 But you told me you'd never let it out of your sight. You said your whole life

was in there.

750

Elsi: I know what I said.

Rea:

You said that there were stories in there that no one else has ever heard. You told

me that professor.

755

Elsi: Rea, I know what I told you. One of us should continue on with it,

Rea: What about you?

Elsi:

760   I've got other things to think about…, This will give you the chance to finish the paper

so when this mess is over, you'll be on top of things O.K.?

Rea: Are you sure?

765   **Elsi**: I wouldn't give it to you if I wasn't sure.

Rea:

Well that's fantastic! The folder is on my machine right now? Can I open it? You could

tell me what I need to know…

770

Elsi: Good idea

Rea: Be right back…O.K.?

775   *Rea moves to exit*

Elsi" What color are your eyes?

Rea: My eyes? Brown.

780   **Elsi**: Brown .

        Rea: Why?

        Elsi: Just curious…

785

        Rea: I'll only be a minute

        Rea moves to exit.

790   **Elsi**: Rea….(searching for something to keep her there) McLuhan!

        Rea: What?

        Elsi: Marshall McLuhan. "There is absolutely no inevitability as long as there is a

795   willingness to contemplate what is happening". Marshall McLuhan. I knew I'd get it

        eventually…

        Rea::

        "…no inevitability as long as there is a willingness to contemplate….." I'll remember

800   that.

        Beat.

        Rea approaches the professor hand outstretched. Elsi longs to hold it, but can't.

Rea: Thank You

805

Rea moves to her apartment and excitedly sits forward in her working chair. Her body, after all, has never left it. She assails the computer.

Elsi is left alone. Exhausted, she slumps back in her familiar chair. Her body, after

810 *all, has never left it. She is in pain. A cherry tomato plant is on a table beside her. She plucks it from the vine.*

Elsi: *(smiling)* Cherry tomatoes in February...

815 *The lights begin to flicker. . The power slowly fades in her apartment as she closes her eyes and sits back in resignation.*

Lights up on Rea

820 *She has opened the folder. She can't contain her enthusiasm for what is inside. She wants to share the joy.*

Rea: *(typing)*

Professor? Professor?

825 *No answer.*

She hits print. Page Number one ...prints... page number two.....

The lights begin to flicker. Power grid shut down .

Rea: Oh No...No. .No...Not yet...

830

As the lights slowly fade we hear the bird... Pretty Bird...Pretty Bird...

Black.

The fire continues to burn in the monitor.

835   **We watch as the two players remove their character identities to become the**

students. They return to the classroom. The opening slide reappears.

Universal U

On-Line

All the Time

840

Metronome :

So what happens next?

Rainstick:

845   I guess it depends on what kind of story we want it to be.

Metronome:

Yea. Salvation or apocalypse.

850 **Rainstick**

What ?

Metronome:

A salvation story goes like this…Fortunately, just as Elsi's life's work was disappearing

855 into the data void, the Microsoft Catastrophe Averter kicked in.

Rainstick: *(catching on)*

Right. It supplied just enough power to let Rea save it all. She went on to write an award

winning academic treatise on "Machine Mediated Relationships" and is currently

860 researching and designing the newest Software in the award winning " Storytellers

Series". The latest boxed set to be released next week.

Metronome:

Elsi's went on to live a long and productive life thanks to the latest innovations in

865 biotechnology. A new heart, new kidney and rebuilt lungs let her stay vital and active

well into her mature years. The end.

Rainstick:

Works in Hollywood.

870

Metronome:

And Apocalypse…

Rainstick:

875   You don't have to explain apocalypse... I catch the drift. Those are the only options?

Metronome:

I don't know...*(To the on-screen teacher)* Salvation or apocalypse. What else is there?

A slide appears: *"The page you are looking for might have been removed, had its name*

880   *changed, or is temporarily unavailable."*

Rainstick:

I guess we'll have to figure it out for ourselves.

885   *Metronome:*

Think we could?

Metronome:

 Maybe....

890   *Rainstick:*

Want to try?

Metronome:

Why not?

895   *They both look to the audience.*

Rainstick:(*she addresses the audience*)

Want to try?

900   **Metronome:** (to the audience)

What happens next?

Rainstick:

What happens next...

905   *They look to the audience expectantly then exit to opposite sides.*

The fire continues to burn providing just enough light to continue the discussion.

Or not.

Source Notes

The play sits in a philosophical place that is outlined in detail in the review of the literature. The postmodern invitation to extend the boundaries as well as perspectives in arts based- research is discussed there. Also included are sources that informed perspectives in educational technology. There are however a number of specific details within the play that require referencing. Line number identifies them.

Line 1.

The Raw and the Half Baked is a play on The Raw and the Cooked the title of Claude Levi-Strauss's structural analysis of myth. " In anthropological terms the concept of "the raw" versus "the cooked" has long been associated with the dichotomy between the natural world and the world of human culture." (The Decameron Web, para 1)

If "raw' is nature and "cooked is "culture" then 'half baked" is a comment on our human constructs.

Line 67

What counts as Knowledge" is a question inspired by a pamphlet written by Leslie Pinder Hall (1991) called *The Carrier's of No – After the Land Claim Trials*. From the point of view of a lawyer for the aboriginal people, she tells the story of clashing cultures in a land claim trials before the Supreme Court of British Columbia. One of the elders called to testify was asked to sing her testimony/ her history. "Her "adaawk" is the oral history which carries the

people's stories, their relationship to their territory, their spirit songs" (p.5).

Afterward ,the judge said "..would you explain to me why you think it was

necessary to sing the song? This is a trial, not a performance..." (p.7)   The

Gitksan-Wet'suwet'en people lost their case. In the eyes of the law, it was clear

that this form of knowledge does not count.

Line 75

"Credibility is the extent to which information is understandable, trustworthy,

valid and logical."

McMillan, J.H.,& Wergin, J.F. (1998) *Understanding and evaluating educational*

   research, Upper Saddle River, New Jersey: Merril, Prentice Hall. p. 7

Line 85

Any theory and set of practices is dogmatic which is not based on critical

examination of its own underlying principles."

Dewey,J.(1938, 1997). Experience and education, New York, New York: Touchstone.

   p. 22

Line 88

" ..education no longer has a humanist end or any value in itself; it has only one

goal, to create technicians.

Ellul, J. (1964). The technological society. New York: Vintage Books. p. 348

Line 185

"God is dead"

Nietzsche,F. (1968). The gay scientist. In W.Kaufman (Ed.) *The portable Nietzsche.*

New York: Viking Press . p. 95

The Madman

"Whither is God?" he cried; "I shall tell you. *We have killed him*---you and I. All of us are his murderers. But how have we done this? How were we able to drink up the sea? Who gave us the sponge to wipe away the entire horizon? What did we do when we unchained this earth from its sun? Whither is it moving now? Whither are we moving now? Away from all suns? Are we not plunging continually? Backward, sideward, forward, in all directions? Is there any up or down left ? Are we not straying, as through an infinite nothing? Do we not feel the breath of empty space? Has it not become colder? Is it not night and more night coming on all the while? Must not lanterns be lit in the morning? Do we not hear anything yet of the noise of the gravediggers who are burying God? Do we smell nothing as yet of the God's decomposition? Gods, too, decompose. God is dead. God remains dead. And we have killed him."

Line 299

"Atom Bomb – not eight year study"

Aiken W.M. (1942) *The story of the eight year study*. New York and London: Harper

and Brothers,

The Eight Year Study (1932 – 1940) was conducted to " to explore the

possibilities of better co-ordination between school and college." (p.2) Its intent

was to "develop students who regard education as an enduring quest for meanings

rather then credit accumulation." (p. 23) It was the largest educational research

project ever undertaken but its recommendations were ultimately ignored. The

onset of the World War and the resulting social climate (The Cold War) sought

order not experimentation.

Line 358

Humboldt's Parrot :Mark Abley tells the story of German scientists Alexander

von Humboldt's nineteenth century trek to South America where he encountered

an old parrot who was the last speaker of an extinct language.

Abley, M. (2003) *Spoken here: Travels among threatened languages,* Toronto, On:

Random House. Chapter 11.

Line 378

Michaelangelo and the painting of The Sistine Chapel.

In her book *A Director Prepares* , Anne Bogart (2002) describes the obstacles

Michaelangelo faced when creating the ceiling of The Sistine Chapel.

Bogart, A. (2002) *A director prepares.* New York: Routledge. p. 140

Line 436

Eishenhower and the First Computer story.

Campbell, J.(1991) *The power of myth,* New York : Doubleday Books p. 24

Line 448

"Definitely not a female Deity"

Campbell, J.(1991) *The power of myth,* New York: Doubleday Books , p. 25.

Line 508

" Pass I On"

This is a line from Rick Miller's one man show *Bigger than Jesus.*

Miller, R.(2003). *Bigger than Jesus.* Unpublished script performed at The Manitoba

Theatre Centre Warehouse. Used with permission of the author.

Lines 527 – 531

> Day dawns, then comes the twilight grey,
>
> The limit of the live-long day;
>
> For weary people sleep seems best
>
> And all God's creatures go to rest.

Shevchenko, T. (1845) *My friendly epistle.*Translated by C.H.   Andrusyshen &

W. Kirkconnel Retrieved March 27, 2004 from

www.infoukes.com/shevchenkomuseum/poetry

Line 627

" The culture of No Culture"

Haraway, D. (1997)

Modest_Witness@Second_Millennium.FemaleMan_Meets>OncoMouse New York,

N.Y: Routledge. p. 33

(It is interesting to note that my computer converts the title of the book into an

e-mail address all on its own)

Line 633

> Elsi's line "people of action who appear…not to be involved in the action", is a
>
> reference to McLuhan. He says "The Theatre of the Absurd dramatizes this

recent dilemna of Western Man, the man of action who appears not to be involved in the action."

McLuhan, M. ((1964) *Understanding media: The extensions of man* , London: Routledge & Kegan Paul Ltd., (p. 5)

Line 660

"Hardwired meat puppets."

Yeaman, Andrew R. J. (1994) 'Cyborgs are us', *Arachnet Electronic Journal on Virtual Culture* 2 (1) ,Section 13. Retrieved October.2002 from

www.monash.edu.au/journals/ejvc/ejvcv2n1.html - 9k

Line 853

Haraway (1999) discusses stories of "Salvation and Apocalypse". (p. 41 – 45)

Chapter Four

Waking

(To Matters of Concern)

*The point is to make a difference in the world... to cast our lot for
some ways of life not for others. To do that, one must be in the action, be finite
and dirty, not transcendent and clean. Knowledge making technologies, including
crafting subject positions and ways of inhabiting such positions, must be made
relentlessly visible and open to critical intervention.*
<div align="right">

Donna Harraway , 1997 (p.36)
</div>

*Critique has not been critical enough...reality is not defined by matters of fact.
Matters of fact are only very partial and very polemical, very political renderings
of matters of concern...Can we devise another descriptive tool that deals this time
with matters of concern and whose import will no longer be to debunk but to
protect and care, as Donna Haraway would put it? Is it really possible to
transform the critical urge to an ethos that's adds reality to matters of fact and
does not subtract reality? To put it another way, what's the difference between
deconstruction and constructivism?*
<div align="right">

Bruno Latour (2004, p. 232)
</div>

I love acting. It's so much more real than life.
<div align="right">

Oscar Wilde
</div>

Seeking the Soul of the Cyborg: Educational Technology as Passion: Play is a

fictional but theoretically informed play about a pedagogical relationship that is

mediated by a machine. There is an irony to the fact that seeking the soul of the cyborg

takes one to places that are finite and dirty not transcendent and clean. The murky

quagmire of complex ideas encountered on the arts-based educational research journey

requires balancing the empirical and the theoretical. In this mode of research, ideas are

called to resonate with what is observed, what is experienced. They cannot remain

'transcendent and clean' while being dragged through a lived experience that insists they

stand on their metaphorical feet and carry the weight of intense scrutiny. Interrogated by questions of 'why', knowledge statements are motivated into action. Actors, both human and machine are considered in 'relation' to each other. The emotional 'cause and effect' is played out in full force. This is part of what is involved in constructing a research play that straddles science / fiction.

The science in question is technology. Technology is the muse that fuelled this arts- based inquiry. It was an inescapable stimulus that led to 'matters of concern' within the field. Questions about relationship and learning, modes of thought and values, language and memory were played out against a seemingly overwhelming power that determined the shape of a future. Technology gave content, ideas, philosophies. Fiction provided the environment, the space needed to experiment. The marriage of the two offered a productive confusion of creative process that traversed tempestuous latitudes of considerable scholarly risk. No angelic resting perches here. No results to illustrate or conclusions to state. There is not the satisfaction. Instead of the thrill of discovery, there is the anxiety of the open ended. It is in the middle of this open-endedness that ABER showed the most promise. Not as a generator of facts, which have long been critically exposed, but instead as a vehicle to consider 'matters of concern' (Latour, 2004). This closing discussion will describe the challenges encountered in an arts-based educational research experiment and consider its ability to channel 'matters of concern' regarding educational technology.

This ABER experiment utilized playwriting as a research methodology as per Harding's (cited in Lather, 1992) definition. "Methodology is the theory of knowledge and the interpretive framework that guides a particular research project" (p. 87). When a

play is used as an ' interpretive framework' questions about experience and relationship move to the fore. A play is constructed for performance. It lives two lives, one on the page and one on the stage. An educational research play adds an additional layer. It must describe, illuminate or interrogate an educational phenomena, situation or relationship. Satisfying these demands in the same space is tricky business.

The topography created by an ABER playwriting experiment requires descending to the depths to observe the strata that underlie the task. Each contour has unique demands/tensions and present obstacles for consideration. Educational research has specific requirements. Questions of validity, reliability and objectivity insist on attention. The written document requires a unity that sees each component as part of an integrated whole that encompasses the theoretical and the empirical. The play itself straddles the physical/interpretive requirements of didactic storytelling and information transfer that consumers of research are accustomed to encountering. The performance and the rehearsal process live 'in the moment' and are kinesthetically connected to the ideas and objects that tell the story. How is a performance to be translated to sustainable, transferable text? How is that part of the research to be shared? These challenges force consideration of subject matter from different vantage points. These vantage points are not presented as a hierarchy but as an acknowledgment of the inevitable tensions that are created when arts process attempts to locate traversable routes through traditional educational research territory. These tensions are multiple.
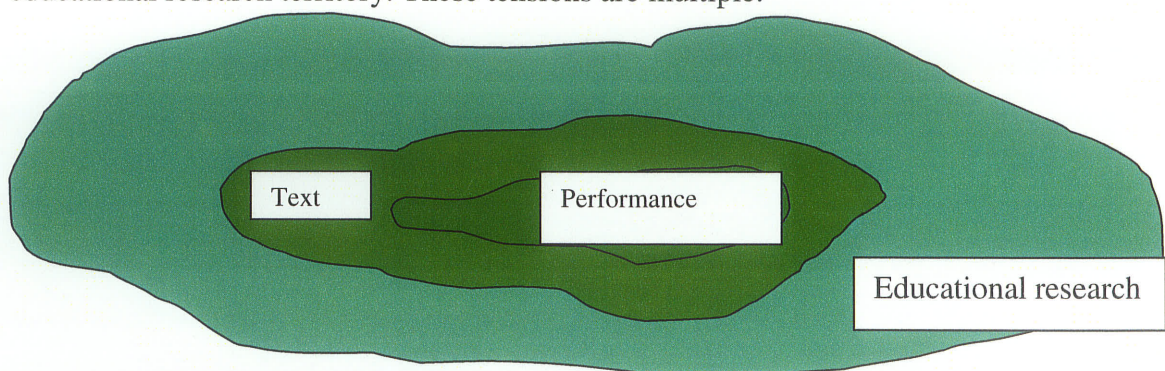
Indeed, in traditional educational research territory, the tensions are perennial and best articulated in the bifurcation that is the conceptual language of the land. Navigating a path requires situating oneself somewhere between the established and the emergent, between the dominant and the marginal, between the questions of science and the demands of art, between the theology of fact/fiction and the worldviews they engender. Postmodernism suggests that the first in the binary is the valorized concept. Therefore 'established', 'dominant', 'science', 'fact' best describes the existing conditions. ABER is located closer to the second set of concepts and accepts its starting point as 'emergent' and 'marginal' but seeks to trouble the confining contours that see it so.

As emergent and marginal, ABER looks to questions of 'validity' and 'reliability' with postmodern, poststructural, feminist eyes. It recognizes that the 'world out there' cannot be "truthfully and accurately captured by the researcher's methods" (Denzin, 1997, p.6) and that the "methodological strategies that lie behind such words as credibility" (p. 6) reflect "efforts to develop a set of transcendent rules and procedures that lie outside any specific research project" (Denzin, 1997, p. 7). Indeed, Lather characterizes validity as "the researcher's mask of authority" (Lather, 1993, p. 674 cited in Denzin, 1997 p. 7) and describes it as a 'fertile obsession'. These kinds of challenges to positivist research strategies have resulted in a 'legitimation crises' and created space for consideration of alternative strategies. 'Critical,' 'feminist', 'poststructuralism' suggests that "an entirely new criteria , divorced from the positivist and post positivist traditions, needs to be constructed. Such criteria would flow from the qualitative project stressing subjectivity, emotionality, feeling and other antifoundational criteria" (Denzin, 1997, p.9).

Critical poststructuralism considers legitimacy in 'other' terms and positions itself as an incitement to discourse. Catalytic validity "exposes how race, class, gender work their ways into the concrete lives of interacting individuals" (Lather, 1986, p. 67 cited in Denzin, 1997, p. 10). Ironic validity, paralogical validity and voluptuous validity are all alternative strategies proposed by Lather. The following criteria are cited.

- ➤ Unsettles from within, taps underground

- ➤ Generates new locally determined norms of understanding

- ➤ Proliferates open-ended and context driven criteria

- ➤ Works against re-inscription of some new regime

- ➤ Works against constraints of authority via replay, multiple openings, networks

- ➤ Puts conventional discursive procedures under erasure

- ➤ Goes too far toward disruptive excess, runaway, risky practice

- ➤ Embodies a situated, partial, positioned explicit tentativeness

- ➤ Constructs authority via practices of engagement and self-reflexivity

- ➤ Creates a questioning text that is bounded and unbounded, closed and open.

- ➤ Brings ethics and epistemology together

(Lather, 1993, p. 686)

Arts-based educational research methodology can be described by the above criteria and a research play becomes 'valid' when framed thus. Lather comments on the value of extending accepted scholarly forms by observing that:

> the most useful work in the present crises of representation "is that which uses
>
> form to disrupt received forms and undermines an objective disinterested stance.
>
> This approach paradoxically both calls into question the dream of scientificity

and advocates the creation of a more humble scholarship capable of helping us to tell better stories about a world marked by the elusiveness with which it greets our efforts to know it. (Lather, 1992, p. 95)

Validating form, as a strategic instrument of access to new understandings, opens doors to consider the multiple representations possible in ABER. Data is gathered through research, observation, experience and experimentation, engagement, discussion, journaling and reflection. Ideas are fused with a critical energy and examined through a personal lens and an interpretive framework that seeks expression in a form meaning full to the process and the person. Lather (1992) suggests that "data are used differently; rather than to support the analysis, they are used demonstrably, performatively. In other words the 'playlet' stands alone, without the intervention of a 'researcher' who then says what the data 'mean' via a theoretical analysis" (p. 95).

Thus a research plays articulates, character, setting, storyline, and action as manifestations of the subject studied and open to critical consideration. The kind of critical consideration that makes the critic "not one who debunks, but the one who assembles. The critic is not the one who lifts the rug from under the feet of naïve believers, but the one who offers the participants arenas in which to gather" (Latour , 2004, p.246) A performance is a place of 'gathering' and an audience is a polyvocal critic.

There is much controversy about this kind of work in the academy. Quality control is an issue. How is the quality of an ABER experiment to be determined? Eisner and Gardner debated the issue in 1999 at the AERA conference in Montreal. Gardner asked

What is going on in this world called education where we are spending

huge amounts of money and people are going through and rather than doing

something which other people can say yes, there is a skill that can be passed on,

they are doing basically expressive acts which the rest of us judge on an aesthetic

bases. If the novel (as example) is coupled with a blah, blah, blah at the beginning

and a blah, blah, blah at the end, then you can bracket the novel and just read the

blah, blah, blah...On what basis would you reject a thesis? (Gardner, 1999

audiotape)

Gardner supported "new ideas and fresh taxonomies" but questioned the value of a video

and a novel as he emphasized that "scholarship has to lead to reliable knowledge".

Eisner (1999, audiotape) replied, "It is not an algorithm. There is always a

judgment issue involved." He goes on to say that 'every representation is a mis-

representation", including science. He pointed out that the "Latin of fiction is fictio; a

making, a construction. In that sense "science is a fictio." Suggesting that the concepts

of science do not apply to aesthetic work, he proposed that it be judged by the extent to

which it "illuminates issues we really care about". He proposed that aesthetic works offer

"opportunities to address the world in a different way" and have the potential to "generate

forms of experience and forms of understanding that simply can't be represented as well

in the traditional forms we employ". An unidentified speaker underscored the tensions

articulated by the two scholars by quoting Thomas Kuhn in saying "The essential tension

is the ability to support a tension that can occasionally become almost unbearable". This

is an apt description of this layer of the ABER thesis experience. It is turbulent terrain

and requires tenacity to find a way through.

The next layer of challenges is encountered when considering the nature of the ABER text. What needs to be included to satisfy the demands of the academy, the art form and the research function? We appear to be long ways off from having a play stand on its own in educational research, so contextualizing the piece is a matter of concern. As there is no standard format for an ABER thesis, the shape the final document takes needs to be determined locally. Eisner (1999, audiotape) suggests surrounding the aesthetic work with "attention to the literature" and further analysis. Whether this book ending is viewed as 'blah, blah, blah" or not, it appears that the emerging nature of this mode of research requires extra effort be made to develop the body of knowledge that will support its continued development.

It is acknowledged that a play requires particular sensibilities to access the potential of the text. In a research play, the text is a record of what is said and presents words as signifiers. This brings into focus the political, ideological, and philosophical perspectives that trouble its ability to definitively encode experience and offers opportunities to consider what is being signified.   If it is to leave space for others to explore the meanings, then layers of possibility must be offered for interpretation. This verbal rendering of experience depends on another's willingness to fill in the spaces. "Dialogue in playwriting is not conversation as we know it in our lives – it is the action of the play" (George, 1994, p. xv, cited in Goldstein, 2000, p. 316) and as such is more evocative than representational. The saying " a play is life with all the boring bits taken out" (Saldana, 2003, p. 221), demonstrates the heighten expectations of the language used. The words of a dramatic social interchange reflect only the surface of what is going on and offer only hints of what lies below. "Dialogue is the playwright's way of showing

character *interaction* and *interplay*, terms found regularly in the qualitative research literature" (Saldana, 2003, p. 226). In a research play this interaction and interplay occurs on many levels and consciously, visibly, with purpose, includes the interpretive and performative tools of the theatre artists who breathe life into it.

Leaving room for others' input means utilizing a style of writing that avoids too much explication. Characters cannot sound like they are giving lectures (unless that is the intention) if they are to attempt to portray a situation with a semblance of verisimilitude. Does this run counter to the educational research function? If the research function is to impart fact, then perhaps it does. However, if the research function capitalizes on the strengths of the form, then it looks for different things. It looks to character, relationship, and storyline to illuminate the things we care about, our 'matters of concern'.

As we negotiate our children's futures what issues are we bringing to the table besides bottom line and efficiency? Does the fact/fiction binary leave out other possible considerations? "Why not add a third position, a fair position" (Latour, 2004, p. 243)? Fact/Fiction/Fair. Indeed , Latour suggests that "matters of fact emerge out of matters of concern" (p. 235). A play can effectively situate 'matters of concern". A play is equipped to deal with the emotional, intellectual struggles that we encounter when faced with uncertain situations. A play can name the 'dis/ease' and put the needs and wants of human beings into the center of the research agenda. What a play cannot do well is pretend to be a pseudo science. The harder it tries, the thinner it looks. " One paradigm lost but another not yet regained" (Diamond & Mullen , 2004, p. 2). What is missed in the precision of the scientific certainty is compensated for with the observances of the poet. The question is, do these observances have any value in educational research? One

proceeds clinging to the affirmative while all around evidence suggests the opposite. Is there room for more than single vision? The poet says "May God keep us from single vision and Newton's sleep" (Blake, 1802).Dancing this tension makes the ABER process a state of perennial doubt and allows for no easy resting places.

Perhaps the most joyful component of the ABER research play, is the rehearsal process. It is a gift that allows ideas to be out for a group of people to make sense of. Actors engaged with ideas, directing their full attention to testing the story structure allow insights not possible from the perspective of the individual. It is the point in the process when theory is taken to its feet and tested in three dimensions, where metaphor is invented and tested in action. The politics of the particular are brought to the fore as words are given flesh. As characters are delineated, big questions are asked. What is one human's experience in this great big world of epic events? Verisimilitude is a preoccupation. Questions of why are critical. Why does she say that? Why does she do this? Subtext. Motivation. Action. Reaction. Whatever the surrounding events, be it an ordinary day, a war or an environmental disaster, it is the human concern that is at the center. If the human concern can be articulated authentically, then an audience shares a part of the artist/researcher journey and sets out on one of its own.

The final phase of the research play requires an audience. The 'audience' is a fascinating construct in a postmodern time.

> In a world supersaturated with information and, mirror, upon mirror, mirrored, totalizing itself as theatre. Entranced by image we are emptied into theatre....As we may gather from the Image - repertoire of Roland Barthes, spectacle seems to have become, with the body as irreducible

'difference' the universal category in whose aspect the world is seen.

....When we think of the scale of awareness required to live consciously in

this world, we're not entirely sure, in the illusory passage of current events,

whether we are spectators or participants." (Blau, 1990, p. 2)

"Spectators or participants?" What is the audience to a research play? Is it an echo; a

public reverberation of voiced thoughts? Is it a partner in a shared experience,

participating in the unpredictable 'give and take' of the moment? The 'X' factor that

draws endless preparation into the realm of chaos; a challenge to the illusion that we are

prepared for what will happen in the next moment? Is it judge, assessor, evaluator?

Perhaps in a research environment, it is all of these things and more. What that 'more'

might be is open to further investigation.

Might the audience be invited to become 'part' of the drama as Boal illustrates in

his Forum Theatre? "Spect-actors" who choose to intervene in unresolved situations and

express meaningful solutions (Boal, 1979, Krauth, 2002)? Could conditions be created

that allowed for "spontaneous interaction between audience and player" (Diamond &

Mullen, 2000, p. 6)? Might they be called upon to act as a 'mutated modest witness'?

Constituents of a discourse community who "yearn for knowledge, freedom and justice in

a world of consequential facts" (Harraway, 1999, p. 267) and who insist on the "strong

objectivity" (p. 37) that sees "both the objects and subjects of knowledge-making

practices [as] located" (p. 37)? Echoing Ellsworth's concerns for 'mode of address' we

ask 'who do we think they are" (Ellsworth, 1997, p. 38)? Consciously investigating the

role of the audience in a research play may open doors to innovative research structures

that embrace multiple voicing. The potential is considerable.

This arts- based mode of educational research was utilized to examine issues within the field of educational technology. It deployed "what Marshall McLuhan has called the artist as living probe" (Menzies, 1996, p. xiv). It looked to understand and articulate 'matters of concern' within the field. What does this mean? What are 'matters of concern' in educational technology? When we look beyond 'procedure', what else is there?

'Matters of concern' describe the complex, entanglements that situate matters of fact. Latour (2004) posits that decades of critical deconstruction have thrust all fact into a limbo that allows them to be manipulated counter to the interests of the human community. He turns the "sword of criticism on criticism itself" (p. 227) and questions "after years [of] trying to detect the real prejudices hidden behind the appearance of objective statement, do we now have to reveal the real objective and incontrovertible facts hidden behind the illusion of prejudice" (Latour, 2004, p. 227)? Furthermore. he observes that:

> Kids are learning the hard way that facts are made up, that there is no such thing as natural, unmediated, unbiased access to truth, that we are always prisoners of language, that we always speak from a particular standpoint, and so on, while dangerous extremists are using the very same arguments of social construction to destroy hard won evidence that could save our lives…Why does it burn on my tongue to say that global warming is a fact whether you like it or not? (p. 227)

What other 'facts' do we as a community need to cling to in order to 'save our

lives'? What do we need to believe is 'true' in order to mobilize forces of change?

Asking "Is it really the task of the humanities to add deconstruction to deconstruction" (p.

225)? Latour (2004) suggests that we move beyond iconoclasm and into a mode of

criticism that "generates more ideas that we have received; a way of thinking that is

associated with more, not with less, with multiplication, not subtraction"(p. 248). Is it

possible to conceive this 'multiplication' in terms of the affective and relational? Are we

adding 'more' when we delve into the subjective and emotional? When we look at

educational technology will questions of human concern be considered "like nouvelle

cuisine – nice to look at but not fit for voracious appetite" (Latour, 2004, p. 237)? What

do we care about in relation to educational technology?

The Raw and the Half Baked, A Pedagogical Passion:Play, puts at its center, the

needs, wants and situations of two fictional characters engaged in a pedagogical

relationship mediated by a machine. It injects a human center into the research and

attempts to test out a "new critical discourse on technology, grounded in the social

context and in the language of experience" (Menzies, 1996. p.xv). This acknowledges

dependence on "our willingness (and daring) to find our voices as people (instead of

experts or bystanders or inert victims) to put people back at the center of the discussion"

(p. xv). What happens when we do that? Stories are made.

This story articulates multiple matters of concern within the field of educational

technology. From the modes of thought and values generated by the machine to the idea

of a disembodied pedagogical relationship, the focus is on how human beings navigate a

machine driven learning experience. Issues of memory, language and connection are

contrasted with an ethos of efficiency that infiltrates all levels of educational life. This

're-description' of the matters of concern articulated within the play are not meant to reduce or encapsulate but to provide a toehold into a discussion that rhizomatically reaches beyond itself. It is hesitantly offered as illustration of potential readings rather than a definitive list of authorial intention. Resisting closure, it is a discussion framed by open -ended questions, not concluding statements.

The play begins with an advertisement Universal U, On-Line All the Time. This is a good thing. Convenient. Cost Efficient. Technology as teacher. Two students enter with different ideas/agendas. One dominates the other. Vying for position, they ask the on screen teacher to tell them which one 'counts'. Not satisfied with a standard answer, wanting more than a stagnant 'learning object', they continue to push their question. The on screen teacher offers an interactive activity that highlights a binary mode of thinking. It is their 'different responses' to what is offered that creates a productive educative space. It is in this space the on screen teacher offers a research story. It is the story that allows the students an empathetic engagement with the ideas. As we watch them become part of the 'story within the story', the subject /object position shifts. They 'become' the story.

The stories we tell in educational technology classrooms serve a particular agenda. As we watch our students 'become' the stories, concerns of limited focus are raised. Stories of convenience and efficiency overpower narratives of community and social consciousness. Are we educating toward a global, corporate culture, a "global soul" or a "soulless monoculture" (Abley, 2003, p.8)? How might planners, designers and educators expand the repertoire of technology stories told to include conversations

"about the world we want to live in so that global hypercapitalism and virtual realities are not the only choices" (O'Riley, 2003, p. 156)? Is this is a matter of concern?

As we move back into the research play, the aural landscape draws attention to the senses as a source of information, mood, metaphor and memory. What are the sounds we hear or are asked to imagine? "..the sound of a generator, closing strains of classical music, crackle and pop of a fire,the train whistle". Heavy rain takes us into the opening scene. Elsi, a sickly old woman, is sitting in comfortable surroundings with a box full of memories. Tapes that can no longer be played remind us of the rapid obsolescence of technology. Letters from long ago, stored in a box, are encountered as an inventory of a life lived. Memories, long forgotten, bring pleasure. As the lights come up on Rea's apartment, the disparity of their situations is contrasted. Her basement flat has a leaky window that provides a view of people's feet. She is not allowed the luxury of focusing on her book. Her surroundings demand attention. Both women are alone.

When the grid rotation occurs, they are anxious for contact. The concept of grid rotation brings the question of powering our technology into focus and places it within a conversation about the environment. In an urban, technology buffered existence, questions of power supply and its environmental consequences are almost unheard of. We are encouraged to consume and discard with no thought of overflowing landfills. Plastics with a half- life of plutonium are endlessly produced and attached to ideas of progress. While environmental issues are marginalized as 'special interest' concerns and seen as an albatross around the neck of a booming economy. The endless cycle of production and consumption is normalized , even valorized while the environment is objectified and viewed as another resource to be consumed. Only when it strikes back do

we pay attention. Grid rotation means a rationing of power. Rationing forces awareness of supply and control. We are encouraged to put our faith in unseen forces to solve our technological problems with technological solution. Individual agency is of little consequence. The play makes visible the thin thread we're building our technological future on. Is this is a matter of concern?

As the two women work through their reactions to having contact severed indefinitely, a contentious teacher- student relationship is established. As players in an educational drama they hold each other accountable for a situation that leaves no one content. Both teacher and student feel caught in a system that reduces them to commodities in the business of education. They illuminate the " tecnothinking and technopractices that permeate present-day western education" (O'Riley, 2003, p.101). They speak of the 'culture of no culture' and consider its impact on their experiences within their learning environment.

This techno thinking has permeated every aspect of educational practice. Analytical problem solving is privileged over aesthetics, intuition, imagination and experience. Technology education/educational technology and indeed all other areas of education as well, have been shaped by expectations of pre-determined, standardized outcomes. Value is attached to productive function and control of said function is paramount. Thus,

> education, is …oriented toward the specialized end of producing technicians; and as a consequence , toward the creation of individuals useful only as members of a technical group, on the basis of the current criteria of utility – individuals who conform to the structure and the needs of the technical group. The intelligentsia

will no longer be a model, a conscience…they will be servants (Ellul, 1964, p.

349)

Is this a matter of concern?

There is a presence in the play we encounter only through language. Rea's

grandmother has recently died and left her a talking parrot. The parrot speaks a language

the girl can't understand. Her connection to her history is severed while she was learning

'what she was supposed to learn.'

As uniformity and standardization is the language of the machine, the question to

ask is whose uniform and whose standards? "The quest for 'universal of communication

should make us shudder because they are permeated by money" (Deleuze, 1995, p. 175

cited in O'Riley, 2003, p. 65). Is this a matter of concern?

When the two women realize that their time together is limited, they begin to get

to know each other as people. The pressure to accomplish a task is gone and what is left

are the human beings who need connection. This connection, albeit a virtual one, brings

values into the discussion. Issues of commitment and trust, inspiration, and

encouragement enter the pedagogical relationship and acknowledge that teaching

involves more than information transfer.

Teaching involves more than information transfer. Does the pedagogy of the

virtual classroom acknowledge what else is communicated in a teaching environment

beside information? As knowledge becomes increasingly commodified and technology

is utilized as a "new form of market mechanism" (Fox, 1991, p. 217 cited in Ferneding,

p. 57) , what happens to the social, spiritual ethical discussions that factor in to using

information wisely? The "large ethical and social issues are being effectively lost in the

technological race and unless they are addressed....a thousand years of humanism will end in collapse." (Fox, 1991, p. 219 cited in Ferneding p. 57) Is this a matter of concern? These issues are of concern to all of us.

Epilogue

Educational technologists, artists, parents, teachers, communities, First world, Fourth world, the environment, are all stakeholders in our children' future. Each has a role in the continuing drama that plays out on the proscenium stage of our nation's classrooms as political and economic interests write scenes of salvation and apocalypse.

> We might profitably learn to doubt our fears and certainties of disasters
> as much as our dreams of progress. We might learn to live without the bracing
> discourses of salvation history. We exist in a sea of powerful stories: They are the
> condition of finite rationality and personal and collective life histories; but no
> matter what the One Eyed Father says, there are many possible structures, not to
> mention contents, of narration. Changing the stories, in both material and semiotic
> senses, is a modest intervention worth making.   (Haraway, 1997, p. 45)

As we construct the stories of tomorrow arts-based educational researchers are not shirking their scholarly responsibility and escaping into the world of fantasy but instead looking to the "...formation of culture on a deep symbolic level" (Grassie, 1994, cited in Lucek, 1999 p. 66). As perhaps the first generation conscious of the next step of our evolution, we struggle to understand the profound implications of the technologies at our disposal. Through arts based inquiry, we play out our struggles, our matters of concern and imagine possible futures. These possible futures see the cyborg coaxed to

consciousness. Equipped with an artist's eye and an empathetic heart, she embraces life with her mechanical arms. Circuit's snap as she moves to music created by a new found imagination, an imagination that is 'of the world' and open-ended, an imagination that bears witness to the soul/full possibilities of a just social vision.

Higher Learning

If all we seek are answers
(a commodity of our day)
Then poetry has lost its place.
(decayed to formal rhetoric)
Knowledge become a currency of power
(memory lost: another absolute solution)
Understanding claimed with no meaning sought
(reason over rapture, intuition, experience)

If all we seek are answers
(driving all else to marginal frontiers)
Then our teachers have lost their place.
(become the bank machines of method)
Learning no connection to its mythology
(structures void of consciousness)
School a place of ordered panic
(tearing soul from molded spirit)

If all we seek are answers, answers, answers,
(certainty espoused)
What hope lies in wait for the unshaped question?
(born of the yet unspeakable)
Known only in the living of it
(the unanticipated itch that directs invention)
The chord less cries of inquiry
(that seeks nothing less than to change the world)

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