Threaded Together:
An arts-based inquiry into the design processes of a team of graduate students working on a professional development infrastructure for teachers in the Anglophone sector in Québec.

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ABSTRACT

Threaded Together:
An arts-based inquiry into the design processes of a team of graduate students working on a professional development infrastructure for teachers in the Anglophone sector in Québec.

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In an attempt to link my art practice with my educational research practice, and in the spirit of reflective practice, I wanted to create a quilt that would act as a vehicle for reflection on our experiences as a design team while developing a flexible learning network for teachers. What I was attempting to do is to use quilting as a metaphor for our process but also use quilting as a research methodology.

The use of quilting as a metaphor afforded me a way to view our design efforts in a way that I had not been able to see or express until that moment. The purpose of using quilting as a metaphor in this inquiry was that I thought it could provide an alternative language for exploring what seemed 'natural' about our way of working. In this sense, what we commonly understand about the instructional design process is supplanted by an alternative vision.

Salvio (2002) cites Deanne Bogdan's notion of the "poetics ordinary existence" in which an ontology of art must not be divorced from life. (p. 373) It involves an "intensified perception of the quotidian" evoking the "feminine communal" as it works towards "blurring boundaries between prosaic and poetic, imaginative experience and ordinary existence..." (Salvio, 2002, p.373). As methodology, the act of quilting itself, the process of sewing, of "slowing things down" as Elliot Eisner said in his keynote address at the Advances in Qualitative Research Methods (1999) conference, and of

seeing things in a different way, "making the familiar strange," was also an important aspect of the research.

The quilt that I created serves as a multi-vocal visual narrative that represents important events, ideas and themes that were identified by the participants in the inquiry and that emerged from my analysis of the data. The quilt offers a site for these co-constructed narratives to be told. There are no right or wrong answers, there are multiple truths that were gathered and shared. I see the quilt as a reflexive intertextual space for conversation, interpretation, and critique of our design practices.

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Thanks to Bruce and my mother and father for your endless support and for putting up with me (and my books, paper and scraps of fabric scattered all around) throughout this entire process. Thanks to my aunt, Yolande Lowrie, for your assistance and encouragement.

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Table of Contents

List of Figures

List of Tables

Preface

The stuff dreams are made of...

> It is in our idleness, in our dreams, that the submerged truth sometimes comes to the top. (Virginia Woolf)

One night in 1998, while we were working on the *qesn.connection* project, I woke up at 3:00am with the thought that our design project was like a quilt, like making a quilt. During a team meeting held on the previous day, a discussion had ensued about the difficulties of explaining our process and design strategies to others outside the core team. Suddenly, it made sense to me. What followed was a period of frantic writing, a description of the quilting metaphor and my thoughts of actually producing a quilt as my thesis project. While my initial musings were quite a literal representation of our process, this early morning burst of energy has since developed into a more complex iteration of quilting as a design metaphor and a research methodology.

To some, this may not seem to be an appropriate means to make methodological choices and academic decisions, but rather than spin tales of evidence with which to prove that this is the best means to conduct research on the lives of female graduate students, I wished to tell a story of "personal practical knowledge" (Clandinin & Connelly, 1990).

The personal part of this story is that I feel strong pull towards understanding where I come from and who I am through quilting, partially, I believe, because my maternal grandmother quilted.

The following is an excerpt from my presentation entitled Threaded Together, at the Advances in Qualitative Methods Research conference, February 20th, 1999.

> *Question from an audience member: I'm wondering if in the process of creating this quilt and making this network if you connected with other quilts of the past in other peoples' lives and other women, who now have gone...*
>
> *Response: Well, part of this started because I discovered in my parents' basement bags full of scraps and my grandmother's cardboard mock-ups of (quilt blocks). I've always wanted to make a quilt. But I didn't necessarily want to make a traditional quilt. In a sense, I didn't want to make a block quilt. I wanted to bring myself into it and the painting that I do. I've dug up her quilts as well, that were sitting in my parents' basement and they live with me. (Laughter) So, those blocks live with me and the quilts live with me. For me that's part of the link, my own lineage...I learned to sew on my own. My mother is from a family of twelve children, she was the eleventh child. My grandmother lived with us for four years but I never had that connection (sewing) with her...except for those artifacts that are left of her. So I have this strange connection with these things that she made, that connect me to her even though she isn't here.*

I never really knew my maternal grandmother but I still have some memories of her. She lived with us from the time that I was six months old until she died when I was four years old. She was in her early eighties when she lived with my mother, father and me. My grandfather had died in October of 1970, when my mother was seven months pregnant. I remember that she used to given me *des bonbons clairs*, striped candies from an old glass peanut butter jar. I remember that she used to tell me not to run in the house. I remember that she used to mistake the sound of the squeaking cabinet door in the kitchen for her dog Teddy's whining. I remember that she used to go out to the garden and pick the green tomatoes. She would take them inside, wrap them in newspaper and place them at the back of her dresser drawers. Then she would forget that she had put them there.

I remember going to stay at my father's brother's house for a week while my grandmother was dying. I made fuzzy felt caterpillar fridge magnets with my aunt in Pierrefonds, while, my mother and her younger sister, who is a nurse, was at my house with to care for my grandmother. My mother's other sisters were there too, at her beside, holding her hand at night.

I remember being at the funeral home in Lac Carré and seeing my grandmother in her casket. She was wearing her turquoise dress and my mother, in tears, was kneeling by the coffin. I remember that wet snowflakes were melting on my face and my navy blue patent leather shoes were sinking into the cold mud as they lowered her coffin into the ground on that March morning in 1975.

My mother was the eleventh out of the dozen children. I was born after all the Christmases and holidays in the Laurentians that brought together the children, their spouses and their offspring. I have no memories of the pies, the turkeys, the sing-along and the piles of dirty dishes. For me, there are old photographs in which everyone looks younger than I remember. My grandmother, whose spirit lives on in the twelve children that she had borne and raised, and the grandchildren she had tended to, has left few material traces of her existence. There are photographs and charcoal drawings but the old house was sold, the furniture was divided amongst many siblings and personal belongings were dispersed to different households.

A few years ago, I was rummaging through my parents' basement and I found a bag full fabric scraps and cardboard patterns. I took them upstairs to my mother who confirmed that they had belonged to my grandmother. She said that her mother must have brought them with her when she moved in, though hadn't sewn while she lived with us. It

was probably because of her arthritis. It was so severe that she used to get cortisone injections.

Also in the basement, in a red cedar chest, I found some of my grandmother's quilts. Two were cotton and one was made of wool. While there were no mothballs in proximity, they carried the distinct smell. I had a feeling that I had seen the woolen one at some point in the past. Ah, yes. It had served a sentence as my dog's blanket in the early seventies. I had no similar recollections of the others. I carefully washed and dried the triad of long lost covers. At the end of my visit, I packed them up and brought them home. Later came the bag of scraps. Out of guilt, or as a response to my indignation, my mother had washed and carefully ironed each piece of fabric and packed them along with the cardboard patterns. And so, through her stitches and her patches, I have come to know a bit about my grandmother, Rosina Locas.

Chapter 1 – Introduction

The roots of this inquiry

We do not solve problems, we cope with situations. (Agar, 1999)

In the Fall of 1996, my project for a required Instructional Design (subsequently referred to as ID) class involved designing a module of an undergraduate Professional Art Practice course in the faculty of Fine Arts. The most difficult aspect of getting the work done was not related to the actual design of the module, but rather getting my design to fit the prescribed instructional design model. I had a good sense of what was needed for the Art Practice Course because I had completed my BFA and been a student representative in the faculty, which I "tested" by speaking to many students and faculty members. I had a vision that I now had to align with the ID model to fit the ID course requirements. So I had to fish around to find ways to justify my decisions. I didn't really follow the model in my design, I designed and then worked my design into the model to prove to my professor that I could properly follow procedures. The alternative would have been to design a job aid for hanging paintings on a wall. I found in my discussions with other students that most of us were experiencing similar problems. There is evidence in the literature on the practice of instructional design that this kind of retroaction extends beyond classroom projects.

> During subsequent projects involving teams of faculty members and teachers, I learned more about design by doing it, at the same time studying the prevailing theories and models in the field. No one approach seemed to reflect what I was coming to believe was an essential element in the process – the personal practical knowledge of the instructional designer. Nor did any describe the process of design as I was experiencing it. Since I was supposed to be the expert, I resolved this personal dilemma by referring retrospectively to the theory or model which best seemed to fit the finished design. (Campbell, 1995, p.230-231)

The instructor for the course that I was taking conceded that it is very difficult to deal with "soft" or "messy" problems using this kind of method or any traditional methods available. In effect, my task would have been greatly simplified had I chosen a project that was procedural in nature so that I could apply the model.

> In the varied topography of professional practice, there is a high, hard ground overlooking a swamp. On the high ground, manageable problems lend themselves to solution through the application of research-based theory and technique. In the swampy lowland, messy, confusing problems defy technical solution. The irony of this situation is that the problems of the high ground tend to be relatively unimportant to individuals or society at large, however great their technical interest may be, while in the swamp lie the problems of greatest human concern. The practitioner must choose. Shall he remain on the high ground where he can solve relatively unimportant problems according to prevailing standards of rigor, or shall he descend to the swamp of important problems and nonrigorous inquiry? This dilemma has two sources: first, the prevailing idea of rigorous professional knowledge, based on technical rationality, and second, awareness of indeterminate, swampy zones of practice that lie beyond its canons. (Schön, 1987, p.3)

This led me to wonder – if most of the problems of interest occur in the swamp, why do we spend our time as students learning about theories and techniques to deal with the manageable ones? Rowland, Fixl and Yung (1992) in their article entitled *Educating the Reflective Designer* illustrate Schon's statements as they relate to the education of instructional designers.

> Traditionally, we have taught design by showing people how to carry out a set of procedures, providing them with simple examples, and maybe asking them to carry out a short project. We have expected them to apply on the job the skills and techniques they learned in class... Does what we have been teaching really capture what *designing* is all about? Have we been teaching people to *walk*, expecting them to develop the ability to *run*, when the job requires them to *fly*? Running is not flying. It requires a very different set of muscles and skills. (p.36)

Why is it that there are a plethora of models and a lot of reporting done on final products and evaluations of final products, but that there is so little written about the process of getting there? I believe that this is so because we are functioning within the framework of "technical rationality".

> Technical rationality involves the notion "that practitioners are instrumental problem solvers who select technical means best suited to particular purposes. Rigorous professional practitioners solve well-formed instrumental problems by applying theory and technique derived from systematic, preferably scientific knowledge." (Schön, 1987, p.3-4)

Within this framework, it seems logical to attempt to come up with new and improved sets of "technical means best suited to particular purposes." However, instructional design involves more than simply following a set of prescribed procedures.

> Perhaps there is an epistemology of practice that takes fuller account of the competence practitioners sometimes display in situations of uncertainty, complexity, uniqueness, and conflict. Perhaps there is a way of looking at problem-setting and intuitive artistry that presents these activities as describable and susceptible to a kind of rigor that falls outside the boundaries of technical rationality. (Schön, 1995, p. 29)

The human element

> We believe that a reorienting of the concept of instructional design to celebrate the role of creativity, imagination, reflection and collaborative conversation will better represent the essential *humanness* of the process. (Campbell-Bonar & Olson, p.143)

I propose that rather than seeking to simply apply predetermined techniques, skilled, competent practitioners are those who intuitively, yet mindfully, work *with* and continuously adapt and interpret existing models, using what seems to be appropriate for the given context and setting aside or modifying other aspects. My conception of educational technology is based in the notion that it is an art, in the sense that it is a

human process that is creative, cognitive and collaborative. One of my driving forces is the need to search out ways of improving my practice as a designer.

My design choices are made through the lens of my experiences, my values, my interests, my beliefs about knowledge, what I deem to be important. As I make decisions about *what* to do, I will also make choices about *how* to go about producing/developing whatever it is that has been envisioned. What I decide to be an "appropriate" means to get there, my methodology, will also be dependent on the factors mentioned above (choosing a theoretical framework -if I explicitly do so - itself becomes a "problem"...). Then, I must tackle the "problem" of how to make this thing - which method to choose. I may have a whole skill set to choose from to produce something (knowing "how" to do it), that those belonging to my community of practice may share to varying degrees. And then once I have made it, how to evaluate it also becomes a matter of framing the problem/question. Where some of this gets tricky is that what I espouse may not be what I actually do - so as I proceed through iterative design cycles I may not really end up with the thing that I wanted (for many reasons that I will not attempt to address here). At some point I should asking myself- "Am I really doing what I say/think that I am doing?" How do I keep track of what I am actually doing? Is there congruency between my theory(ies) and my practice (and vice versa)?

A community of "personal practical knowledge" - the site of the inquiry

In Spring 1998, I participated in a collaborative design and development project that involved the creation of a flexible learning network for teacher professional development. The members of the core design team were four female graduate students (myself included), all of whom were MA candidates in the Department of Education at

Concordia University. These women were my peers, my coworkers, my co-researchers, my friends. Ultimately, I became interested in the relationships, both the research relationships and the friendships that emerged from working with this team of women.

Informed by our experiences as graduate students in the university context, through current literature, through our own field research with teachers in schools, and amidst our personal histories, and our work with other team members, we formed assumptions and made choices that led to the design and development of *qesn.connection.* This professional development project was designed for teachers in the anglophone sector in Quebec who would soon be implementing new programs of study in the midst of curricular reform.

Our choices would have a direct impact on the nature of the model that was designed for teachers. This is what Schön (1987) in *Educating the Reflective Practitioner* calls framing or problem setting. He posits that when framing a problem, a designer will ask the questions that are relevant to his or her own beliefs and espoused theories. In other words, our beliefs about design and the nature of learning as a team will determine what we will actually decide to produce. I will frame/name or identify a problem (deciding "what" to do) according to my own way of viewing the world and through my experience (whether or not I am aware of it or admit to it). I will construct that problem through my ideological perspectives, informed through my gender, socioeconomic background, educational history, etc. When framing a problem, I will ask the questions that are relevant to me and that inform my own beliefs and espoused theories. In essence, I am identifying where I am situated. And this occurs whether or not I acknowledge my standpoint.

If this is so, then we as practitioner-researchers have a vested interest in learning about and bringing to the fore our own assumptions through reflection so that we may become increasingly thoughtful and responsible in our work. I believe that if we can come to a better understanding of our design processes, we are in a better position to develop strategies to improve our own practice and in turn improve the processes and infrastructures that we develop for teachers.

> Our behavior and our attitudes are shaped by the images, assumptions, and stories that we carry in our minds of ourselves, other people, institutions, and every aspect of the world. (Senge, 2000, p.67)

As designers, we are certainly interested in the characteristics of our clients and our users, their demographics, their learning styles , their habits, their environment, their constraints, their limitations, their abilities, likes and dislikes – and rightfully so. I am a proponent of participatory design and value the involvement of users throughout the design process. But while I am not trying to minimize the importance of the user in the design process, I think that we should place more emphasis on the impact of the designer her/himself on that which s/he produces. It is my belief that identity, shaped by gender, ethnicity, age, class, and life experiences, informs who we are as instructional designers and has an impact on what we design. For this reason, it becomes crucial to position the researcher "in the same critical plane as the researched" (Damarin, 1991). As stated by Harding (1996):

> one's social situation enables and sets limits on what one can know; some social situations - critically unexamined dominant ones- are more limiting than others in this respect, and what makes these situations more limiting is their inability to generate the most critical questions about received belief. (p.240)

This "...raises the whole issue of research itself being social action and not objectively disconnected from it" (Schratz & Walker, 1995 p127). Can we come to an understanding of what it is that we are actually doing? If so, how can this understanding help us to improve our own practice and to improve the way that we teach others about the design process? How can we learn from this practical knowledge and feed it back into the community of practitioners? Kegan and Lahey (2001) point out that

> ...we are all active meaning makers, and that our values, assumptions, and commitments profoundly influence which pieces we attend to or see, as well as how we put the pieces together – that is, how we make sense of what we see. These meanings in turn dictate how we behave. We can look at our meanings to see what they tell us about our personal values, assumptions, and commitments. This is not the typical level at which we attend to ourselves, but we (the authors) think it is worth the effort because it constitutes an unusually clear window into ourselves. From that window, one can ask critical questions: "Am I doing what I say, think, and believe I'm doing?" "Do I want to do what I see myself doing?" "Why? Why not?" (Kegan & Lahey, 2001, p.97)

These are important questions that should be considered, as they shape not only the end results, but the preliminary questions which inform practice and research in the field. These choices will have a direct impact on the nature of the process, product or educational/instructional system that is produced. This applies particularly to ill-structured problem situations where the designer/design team has the freedom to make initial decisions about the nature of the process or product, rather than the delivery of a product where the specifications have been predetermined. I think that reflective practice and forms of action research might offer some possibilities for instructional design. The point is not to defend why you think the way you do but to use your reactions as a "source for learning" about yourself and your meanings. (Kegan & Lahey, 2001, p.97)

The Setting

> *Context* includes features of the "real world" setting in which the task to be learned might naturally be accomplished. (Jonassen et al, 1995).

Jane Agee (2002) suggests that "settings are distinguished by regular iterations of particular rituals, discourses, and expectations but are fluid as well. Members, through processes of naming, rituals, and relations with other settings, *sustain settings as bounded to achieve particular ends*" (Agee, p.570).

Goals of the Project

The *qesn.connection* project was initiated as a response to a policy document that was published by the Ministère de l'education du Québec entitled *Orientations for the Professional Development of Teachers.* The design and development of the project was funded by the *Services à la communauté anglophone – Direction des politiques et des projets*, a subdivision of the Ministère de l'education du Québec that is mandated to provide support and services to anglophone education systems across the province. In addition, research funding was provided by the *Centre for the Study of Learning and Performance*, located in the Department of Education at Concordia University, to support the evaluation of the implementation process in two elementary schools. Two other inquiries related to the *qesn.connection* project detail the professional development infrastructure that was designed by the team and shed light on the pilot phase of the process on-line (Caron, 1999) and in the school setting (Bielec, 2002).

Our objectives in the design of the *qesn.connection* were to create a flexible professional development infrastructure that would: a) provide teachers with short-term and sustained support for improving teacher practice, b) facilitate access to new

curricular and cross-curricular developments, c) assist in the introduction and implementation of educational innovations, d) provide a space for collaboration, sharing experiences, practices, and teacher-produced and tested materials that is centrally-located, coordinated, in a practical and usable manner for teachers.

People involved in the qesn.connection process

In April 1998, I, along with other graduate students, were approached by the Project Manager to work as part of a team that would design a distance education professional development initiative for teachers in Québec's anglophone sector. We were chosen based on our collective experiences working with teachers, primarily in elementary schools, to help them with technology integration as part of the NTIC grant that was received by the Research Centre. This inquiry focuses on the design process of four graduate students working within the larger team. Two other graduate students were also members of the design team, one from June to October, and the other was available on an occasional basis to assist the core team. Due to personal reasons and other professional commitments, they were no longer working on the project when I began the inquiry process.

There were a number of people involved in the project that held a variety of roles. The following table outlines the list the participants and their respective roles:

Table 1 - Participants in the *qesn.connection* project

Participant	Roles
Project Administrator	▪ faculty member in the Department of Education and the director of the centre ▪ responsible for a number of research grants that had been received in order to study the integration of new technologies into classroom practice
Project Manager	▪ lecturer in the Department of Education, Program Director and Internship Supervisor ▪ charged with managing the human resources, production and the budgetary aspects of the project
Client	▪ acted as the liason for the Services à la communauté anglophone ▪ participated with design team in a variety of activities
Resource Person	▪ part-time Faculty member in Department of Education ▪ member of the Centre, acted as advisor on constructivist theory
Administrative Assistant	▪ information technology specialist ▪ provided assistance with literature search
Client's Advisor	▪ Doctoral student in Department of Education ▪ hired by Client to work on technology planning resources ▪ attended Technology Task Force meetings on client's request
Design Team – includes 4 participants in this inquiry	▪ MA students in the Department of Education ▪ Hired to design and develop distance support for teachers who would be implementing new curriculum
QESN webmaster	▪ MA student in the Department of Education ▪ Worked for Client as webmaster for the Quebec English Schools Network ▪ Provided feedback at various stages of design phase ▪ Provided technological expertise and access to QESN server
QESN resource person	▪ Worked for Client as coordinator for telecollaborative classroom projects for the Quebec English Schools Network ▪ Provided feedback at various stages of design phase
Technology Task Force	▪ advisory committee to Services à la communauté anglophone at MEQ ▪ made up of educators, ICT consultants, university professors
Assistant Deputy Minister	▪ Director of Services à la communauté anglophone at MEQ
MEQ educational specialists	▪ Client's colleagues representing a variety of subject areas (Social Sciences, ELA, Math and Science) and sectors (youth, vocational education and adult education)
Teachers	▪ Participated in a variety of professional development initiatives prior to the *qesn.connection* project ▪ Participated in the piloting phase qesn.connection
School board CEMIS animators	▪ Provided feedback at various stages of design, but primarily during evaluation phase

Focus of the *qesn.connection* project

Our team's task was to design a professional development model that was meant for use by practicing classroom teachers who would be faced with the task of implementing the new Québec Education Program in the upcoming years. It was of great concern to the client and her colleagues that the model that we designed be flexible in order to accommodate different kinds of content. Initially, there was some thought that History would be a prime test area in our first phase of implementation. The educational specialists at the Ministry were aware that elementary teachers, who had never formally taught History in the past, would need support in order to implement the new social sciences program. They would need help with both the content and with strategies that were related to the teaching and learning of history. However, during the summer that we were working on the *qesn.connection* the new History program had not been produced and would not be ready in the foreseeable future. In the end, due to our past experience, it was decided that the integration of technology across the curriculum would be the main focus of the pilot phase of the project. The initial design and development phase began in May 1998 and the implementation of the pilot phase took place from November to June 1999. This inquiry focussed on the design and development period, beginning in May 1998 and ending November 1998.

Purpose of the inquiry

> A learning environment is a place where people can draw upon resources to make sense out of things and solve problems. (Wilson, 1995)

The intent of this inquiry was to reflect on the design team's process as we worked on the *qesn.connection* project in order to improve our future practice. In this sense, it was action or practice-oriented rather than propositional, concerned with the

generation of theoretical knowledge. Another purpose of the inquiry was methodological in nature, in that I wanted use the *qesn.connection* design process as a context for experimenting with arts-based research methods.

I wanted to create a picture of the learning environment that we created for ourselves during the design and development phases of the project using Jonassen et al.'s (1995) the four attributes of constructivist learning environments, "context, construction, collaboration and conversation" (p.13) as focal points. This had been one of the conceptual frameworks that was used in the professional development infrastructure that we had designed for use by teachers. It seemed appropriate to use it in the context of studying our own learning environment. Some of the questions that I was interesting in exploring are arranged according to these four focal points.

> *Context* includes features of the "real world" setting in which the task to be learned might naturally be accomplished. (Jonassen et al, 1995).

What was the design context? How did we function within our group and in the larger research context that included other students, professors and supervisors?

> *Construction* of knowledge is the result of an active process of articulation and reflection within a context. The knowledge that is created is a product of the mind and results from individual's experiences with and interpretations of the context (Jonassen et al, 1995).

What processes enabled construction of knowledge during the design of the *qesn.connection* project? How did our experiences as graduate students and as research assistants working on teacher professional development frame our understanding of the design context? What possibilities did we create for ourselves and how did we limit our own learning?

> *Collaboration* among learners or performers occurs throughout the learning process. Collaboration aids in developing, testing, and evaluating different beliefs and hypotheses within learning contexts. Through the process of articulating covert processes and strategies, learners are able to build new and modify existing knowledge structures. (Jonassen et al, 1995).

In our collaborative work, how did we negotiate our roles? How did our personal beliefs and values impact on the group? How did we accommodate each others' different world views, opinions, values and beliefs? Were we able to function as a group and maintain our sense of selves? What is lost and what is gained in such partnerships?

> *Conversation* is entailed by collaboration. Individuals and groups must negotiate plans for solving situated problems before initiating those plans. This planning involves reflecting on what is known, what needs to be known, the viability of various plans, and their potential effectiveness. (Jonassen et al, 1995).

Were we able to reflect on our work processes and strategies? What might we learn from these reflections that might increase our knowledge in order to improve our future learning and work processes? How could we change our conversations with each other, with teachers, with supervisors, with our clients, and with other collaborators in order to improve our learning and our design strategies? How can we go about understanding and reflecting on the relationships that emerge and grow out of such collaborative efforts?

Ultimately, by sharing what I learned about my own processes and our team's process, I hoped to contribute to increased awareness through reflection on the instructional design process in the field of Educational Technology. In the end, the emergent nature of the inquiry process and the passage of time led me down a somewhat different path, but one that I believe is worthy of some consideration.

Chapter 2 – Engaging with the Literature

Defining the self-as-designer

One divine hammer

I'm just looking
Just looking for a way around
It disappears this near
You're the rod I'm water
I'm just looking for the divine hammer

One divine hammer

I'm just looking for one divine hammer
I'd bang it all day
Oh the carpenter goes bang
Bang bang
I'm just looking for one divine hammer

One divine hammer
One divine hammer

I'm just looking for a faith
Waiting to be followed
It disappears this near
You're the rod I'm water
I'm just looking for one divine hammer

One divine hammer
Divine hammer
(The Breeders, 1993)

The "Official" Word

In a critique of the AECT's definition of 'Educational Technology', Damarin (1991), states that "By its own definition, then educational technology can be viewed as a 'means in search of an ends' and is reminiscent of the new hammer in the hands of the energetic youngster who suddenly sees everything in as 'needing hammering'." Suzanne K. Damarin (1991) suggests that "educational technology is clearly a 'top-down' activity; the definition of the field indicates that learning resources, education

development functions, and educational management functions which comprise the process of educational technology exist independently and apart from any specific learner or group of learners." It would be naive to assert that all educational technologists support the 'official' definition. Yet, there seems to be (or have been) a widely held assumption, evident in the ID literature and through my experience as a student, that the practice of instructional design primarily involves the application of theories and/or models (which may or may not be 'scientific'). Furthermore, it is assumed that it is in the act of doing so that a product or performance of quality will result.

As Damarin (1991) asked, are "the goals of educational technology so discrete from the goals of teachers that the experiences of teachers are irrelevant to the design of educational technology?" The words of William Winn (1989) strongly suggest that in fact, they *should* be distinct: "Educational technology can only become a viable discipline and profession if it concentrates on developing alternatives to the teacher-based model of public education rather than trying to alter it, improve it, or even just serve it." The push to develop new and better technology, to separate from the field of education and focus on the development of materials that will be used without the presence of the teacher is driven by a specific agenda. Focussing on the development of new areas serves as a device to bring prestige to the profession and its members.

> The degree to which political issues saturate the research process is not always understood, especially by those directly involved. Within each research community, research methods and techniques are often thought of as merely technical, as "instruments", but this is never the case. Values are close to the surface in even the most systematized process, though those closest to the process are usually the last to recognize them as such. Research questions are always embedded in a wider epistemological context, as are the researcher(s) and the supervisor(s). Epistemology is not simply logical, it is essentially ideological. (Schratz & Walker, 1995, p. 135)

Definitions of Instructional Design

> Emerging paradigms in instructional design seek, in part to reconcile the rational view of design as product-oriented optimal blueprint and design as process-oriented and ontologically based. At the same time as there is growing interest in the nature of teacher thinking, theorists such as Tripp (1991) and Schön (1983, 1987) are exploring the possibility that designers use many different approaches at different times on different kinds of problems, and that the decisions may be at least partly intuitive (Tripp, p.5., 1991). (Campbell-Bonar & Olson, 1992, p.143)

It would seem appropriate at this point to attempt to define the term instructional design as it is used in the field and in the literature. However, one of the main challenges in doing so is that there are probably as many definitions of educational technology and instructional design as there are authors of articles and practitioners in the field. As Januszewski (1992) suggests "multiple conceptions of the term 'educational technology' exist simultaneously." There is no consensus as to what in fact belongs in the realm of theory and what should be attributed to practice, and the case of praxis, the two become linked to each other. I will attempt to illustrate some of the discrepancies and arrive at some explanation of why they have occurred. I must admit, however, that I am comfortable with the complexity and the existence of these varying points of view and would not advocate the acceptance of an official definition.

Metaphors instructional designers live by

> We have seen that truth is relative to understanding, which means that there is no absolute standpoint from which to obtain absolute objective truths about the world. This does not mean that there are no truths; it means only that truth is relative to our conceptual system, which is grounded in, and constantly tested by, our experiences and those of other members of our culture in our daily interactions with other people and with our physical and cultural environments. (Lakoff & Johnson, 1980, p.193)

Wilson (1995) states that "the constructivism movement has also heightened our awareness of how people's underlying views of knowledge influence their everyday practice." Why is it important to uncover our theories about learning? Our perspectives on learning matter because as Wenger (1998) puts it " what we think about learning influences where we recognize learning, as well as what we do when we decide that we must do something about it – as individuals, as communities, and as organizations." (p.9)

Table 2. How different assumptions about knowledge can influence our views of instruction. (Wilson, 1995)

If you think of knowledge as...	**Then you may tend to think of instruction as..**
- a quantity or packet of content waiting to be transmitted	- a product to be delivered by a vehicle.
- a cognitive state as reflected in a person's schemas and procedural skills	- set of instructional strategies aimed at changing an individual's schemas.
- a person's meanings constructed by interaction with one's environment	- a learner drawing on tools and resources within a rich environment.
- enculturation or adoption of a group's ways of seeing and acting	- participation in a community's everyday activities.

The table offers a brief summary of different philosophical orientations towards instruction. I am not using the table to make any profound statements on the nature of knowledge, but it is useful to illustrate the power of metaphor. Wilson (1995) suggests that the metaphors we choose to describe our views of knowledge divulge our underlying beliefs. For instance, he states that "viewing instruction as a learning environment will tend to have some connection to a meaning-construction view of knowledge." George Lakoff and Mark Johnson make the point that "not only do we use metaphors in order to think, but that metaphors organize our thinking into systems and concepts. Many of our metaphors come out of our human experience, and are so deeply embedded in our lives

and language that we are completely unaware that they form our thinking." (Elsley, 1995, 239).

Design as science

Some educational technologists view design as a process which is "driven by known rules, principles and procedures" ascribing to a "belief in the prescriptive power of a science of instructional design." (Rowland, 1993). If one's conception of educational technology is based in the notion that it should be driven by theory derived through empirical means, then the driving force will be the need to search out new and improved ways of providing solutions to predictable educational problems. This is reflected in some of the procedures that are built in to many prescriptive ID models. To ensure that we solve problems 'correctly' we have put in place mechanisms such as techniques for conducting 'proper' needs assessments. It is assumed that if we follow proper procedures, we should rest assured that we will have sufficient information to frame the problem 'properly'. In the end, if we have developed something that is less than satisfactory, we determine that the 'cause' lies in that the implementation did not occur as prescribed or that we did not apply the front-end procedures with enough rigor. According to McCarthy (1994), Habermas would argue that this positivist standpoint "conceals a commitment to technical rationality behind a façade of value-freedom." McCarthy adds:

> Through an aggressive critique of all nonscientific forms of theory and all nontechnical conceptions of the relation of theory to practice, it attempts to remove all barriers to the dominance of scientific thought and its technical utilization....At the most elementary level –technological rationality in the strict sense – we employ techniques placed at our disposal by science for the realization of specific goals. Instrumental

> action is rationalized in this sense to the extent that the organization of means to defined ends is guided by technical rules based on empirical knowledge. The information provided by empirical science in the form of lawlike regularities and scientifically tested predictions replaces traditional criteria of appropriateness, as well as rules of experience developed unsystematically in the arts and crafts. (McCarthy, 1994)

One of the most extreme examples of this viewpoint in the field of educational technology is expressed below:

> Many persons associated with educational technology today are engaged in a flight from science. Instruction is a scientific field and instructional design is a technology founded in this science. Instructional design is not merely philosophy; it is not a set of procedures arrived at by collaboration; it is a set of scientific principles and a technology for implementing these principles in the development of instructional experiences and environments. (Merrill, Drake, Lacy, Pratt and the ID2 Research Group, 1996)

Others take a less extreme stance and adjust themselves to a more contemporary view of scientific practice. While not rejecting outright the notion of science, Jonassen et al.(1997) want to realign the scientific foundation to accommodate "some of the uncertainty, indeterminism, and unpredictability that pervade our complex world" in order to "develop stronger theories and practices will have more powerful (if not predictable) effects on human learning. Jonassen et al (1997) suggest that the "scientific foundation on which they (Merrill and his colleagues) place instructional design is rooted in experimental empiricism." These authors argue that "the logical positivist theory of science on which they base instructional design makes inappropriate assumptions about the process of scientific meaning-making, which is more dialogical and inquiry-based, according to contemporary science educators." They (Jonassen et al, 1997) add that the

beliefs that characterize traditional conceptions of instructional design are based on assumptions that:

- Instructional systems are closed systems which are the sum of their parts... Instructional systems design is the process of regulating these closed systems.
- Knowledge is an external, quantifiable object that can be transmitted to and acquired by learners. The effectiveness of instructional systems ...is a function of the effectiveness and efficiency of this transmission process.
- Human behavior and performance are predictable, that is, they are reliable, knowable, and predictable in known circumstances. This enables patterns of behavior to be analyzed and used to make judgements about how learners are thinking or what they have learned.
- A change in the state of one entity causes a predictable change in the state of another because of a linear relationship between the two (linear causality). Instruction predictably causes learning.
- Interventions in the learning process deterministically predict the effects of those interventions. The design of an instructional system will effect predictable changes in the learners' performances.

Tripp and Bichelmeyer (1990) contend that few models are ever subjected to empirical testing, and they have a pragmatic rather than a theoretical basis, even though they "claim to emulate a scientific approach." While this may be a desirable goal for some, in Clark's (1989) view, both "the practical applications of research and the advancement of theory" are plagued with problems stemming from "short-sightedness", "simplistic conceptualization and design", and "a stagnation in the researcher's understanding of the theories available..." He adds that what "passes for a theory in much of the IDD literature are (sic) actually craft-based, rigid procedures for training." (Clark, 1989). So, even if one does aspire or claims to use scientific theory as a basis for the development of educational materials, it seems that the results often fall short of the original intention.

Since it can be argued that each designer would come up with different solutions to the same "problem", then we cannot say that what they are doing is solely based in

scientific theory and the application of strict procedural methods. There is certainly a subjective aspect to the activity where both creativity and experience are infused into the process.

Design as craft

If one perceives that educational technology is craft oriented, then one qualifies design as the use of existing knowledge, in conjunction with creativity and intuition to find solutions to problems in their context, as they occur. According to Rowland (1993), from the craft perspective, "rules and procedures" have limited applicability. The craft-based view of the process is sometimes characterized as "intuitive, creative, or artistic" and as emphasizing "early attempts at solution rather than complete understanding prior to solution attempts." (Rowland, 1993). Tripp and Bichelmeyer (1990), citing Lawson (1980), assert:

> The nature of design, Lawson (1980) argued, is that problems cannot be comprehensively stated, and that any statement of a problem requires subjective interpretation on the part of the designer. Solutions are unaccountably large in number and there is never one that is optimal. The design process is endless, with no infallibly correct methodology...The limits of analysis are determined by the fact that complex problems are subjective and cannot be exhaustively analyzed.

According to Shaw (1992) success in instructional design has more to do with the "quality and extent of evaluation rather than any set of prescriptive design rules" which might be applied by the practitioner. He asserts that although certain procedures and models may be utilized, "current state-of -the -art practice may suggest that the process is really largely an art or craft which cannot be treated as science." (Shaw, 1992).

Januszewski (1992) states that evaluation is a key concept in educational technology and if "this is the lone criteria for craft status, then educational technology is a

craft." He admits however, that as a result of "historical considerations" craft status is undesirable to most practitioners in the field, since is it undervalued in comparison to "science, art and engineering." (Januszewski, 1992). There is further support for this statement, as Davies (1991) writes, "It is ironic that when developers highlight the design, development, implementation and evaluation stages - in the belief that these somehow confer the status of scientific endeavour - they are, in fact, reinforcing the craft side of what is essentially a creative act of inquiry."

The "over-valuing" of positivist scientific theory may have led to the perceived need to create a solid theoretical basis for instructional design processes in order to validate and lend credibility to the work of educational technologists. In the words of Alan Tom (1987), "To rely on craft-oriented inquiry is to appeal to the heritage of common sense and to direct the study of education toward the accumulated experience of practitioners." He characterizes the craft-based approach to education as having "three fundamental weaknesses," in that it replicates and imitates prevailing practice, it is nonadditive and "romantic," and it is "unsystematic." This perception is reinforced by the words of Winn (1989), "we need to upgrade the status of instructional design from a technique to a true profession...." through the identification of "a solid body of theory upon which the field can be based." Januszewski (1992) suggests that James D. Finn's endeavors to raise what was once known as the audio-visual field from a "lowly craft" to a profession has had a long lasting impact in the field of educational technology.

According to Clark (1987), a "conflict" exists between the "older 'craft' oriented approach to media" (which is typified in many educational settings, including some educational technology programs) and "newer scientifically-based technologies." Hlynka

(1984) makes a pertinent point when he states that "in science and technology, progress obsoletes what has gone before. In art, this is never the case." It would seem as though much of the resistance to the craft-based model has more to do with gaining prestige for the field than it has do with a belief in the strict adherence to principles for improved practice.

According to Davies (1991), craft brings "technique,...important specialized skills, often science based", to educational development. In craft, the development of the final product is connected to the implementation of a specified plan. For the educational technologist, mastering skills such as "needs analysis, task analysis, audience analysis, evaluation," will strengthen efficiency and effectiveness. (Davies, 1991). These skills, he maintains, represent only a part of the task- "they guarantee the craft, however, but not art of instructional development." (Davies, 1991).

Design as art

Davies (1991), argues that while both craft and theory (as science) are present, instructional development is or should aspire to be "an art", and maintains that there is a clear distinction between art and craft. In short, he describes craft as "systematic" (in direct contrast to Tom, cited previously), and art as "systemic". "Only instructional development, perceived as art, is capable of realizing the potential of the two dimensions in their richest and fullest form." (Davies, 1991) Perhaps what is needed is an awareness that both theory (as methodology) and craft (as method) inform the educational technology process. When teamed with creativity and intuition, supported by a keen sense of the context and a sensitivity to the needs of those involved, it can be viewed as an art.

Design as collaboration

> The capacity of moral agents to talk appreciatively with each other regardless of fundamental differences is crucial in friendship, marriage, politics, business, and world peace. We see evidence everywhere that the capacity is sorely underdeveloped, and yet we have so far given the task little attention in educational circles. (Noddings, 1991, p.157)

Katy Campbell (1994) suggests that "the personal practical knowledge (Connelly & Clandinin, 1988) of the instructional designer has not been authorized by traditional blueprint instructional design models which are rational and systematic" (Campbell, 1994). Her study sought not only to "legitimate personal practical knowledge as the basis for instructional design practice, but to celebrate the design process as one of the telling and sharing of lives." She states that in this sense, "the collaborative instructional design process is one of the sustaining of family" (Campbell, 1994).

The constructivist collaborative model of instructional development can be characterized by what Nel Noddings (1991) describes as interpersonal reasoning. Based on Norma Haan's description interpersonal reasoning is "moral dialogue between agents who strive to achieve balanced agreement, based on compromise they reach or on their joint discovery of interests they hold in common" (in Noddings, 1991, p.158). Noddings asserts that "in contrast to logico-mathematical reasoning that proceeds step by step according to a priori rules, interpersonal reasoning is open, flexible, and responsive. It is guided by an attitude that values the relationship of the reasoners over any particular outcome, and it is marked by attachment and connection rather than separation and abstraction." (Noddings, 1991, p.158)

Design as reflective conversation

> In its role in sustaining relationships with others, Bruffee (1993) characterizes conversation as connected knowing and the site for constructing knowledge. (Campbell and Boeglin, 2000)

Schon's (1987) alternative to the model of technical rationality – "reflection-in-action" – (or "thinking on one's feet" as Winn put it) places the designer in a "reflective conversation" where "means and ends are framed interdependently in his problem setting." Schön (1987) suggests that the positivist epistemology of practice rests on three dichotomies in which means are separated from ends, research from practice and knowing from doing. Given this separation – "instrumental problem solving can be seen as a technical procedure to be measured by its effectiveness in achieving a preestablished objective... rigorous practice can be seen as an application to instrumental problems of research-based theories and techniques whose objectivity and generality derive from the method of controlled experiment... (and) action is only an implementation and a test of technical decision." (Schön, 1987) By contrast, in reflective conversation, where these dichotomies do not exist, "inquiry is a transaction with the situation in which knowing and doing are inseparable."

Striebel (1991) differenciates technical action from practical action and relates the implications for instructional design in the following way:

> In technical action, the consequence of action is a product (a behavioral outcome in the case of an instructional action) that is compared to a pre-existing idea (e.g., an objective). In practical action, the participants in the action themselves (e.g., the teachers or learners) have to make an ongoing series of judgement calls about whether they are moving towards greater understanding. This never-ending goal contains both a technical and a moral dimension (i.e., whether the learner's future action matches their original intention and whether the learner's action is worthwhile and good for them – something that cannot be predicted). The knowledge that a teacher and a learner needs is worked out during a series of judgement

> calls where interpreted meanings are authenticated by the teacher and the learner in the actual unfolding situation...Hence, the instructional designer cannot rely on a technical approach to design. Rather, an instructional designer has to be guided by a practical human interest and support the instructional and learning processes that actually take place.

However, what practitioners *actually* do is rarely discussed because of the pervasiveness of technical rational view. Therefore, we do not engage, for the most part, in reflection on our *actual* practice, because from the technical standpoint there is no need to do so. Who we are and what we value as designers is really of little interest or concern. New concepts or insights must be expressed according to acceptable theories and models rather than through personal interpretation or narrative (anecdotal) evidence. Our ideas and understandings, arrived at intuitively or gained through experience must be legitimated through citations and references to the published findings of (other) established researchers in order to be validated in the Educational Technology community.

Viewed in Habermas' terms, this is the first knowledge-constitutive interest, the technical interest, where theory is a guide to action (Streibel, 1991; Hlynka & Belland, 1991). From this view, we *think* that we solve problems by applying theory and technique derived from systematic, preferably scientific, knowledge. The designer is perceived to be a neutral player. Or conversely, when we *know* that we are doing otherwise, we don't admit to it because we are "cheating" or doing it incorrectly. I think that this occurs because in this still widely held deterministic view of instructional design, which is closer to (or at least aspires to be) a (traditional) science of design rather than an art of design - the artistic and creative aspect of practice remains taboo. In the technical approach, the work of instructional designers is "essentially reproductive" (Streibel, 1991).

> In the culture of positivism education becomes a form of social regulation that guides humans toward destinies that preserve the status quo. Reflection on the formation of subjectivity or analysis of "what is" vis-a-vis "what it should be" is dismissed from the positivistic culture. In other words, consciousness of historical forces and their relationship to everyday life has no place in the technocratic rationality of the culture of positivism. (Kincheloe, McLaren, & Steinberg, in Giroux, 1997, p.*x*)

Within the existing ID culture, the designer is perceived as a neutral player. According to Streibel (1991), this approach "overlooks the fact that instructional designers are constantly making judgement calls in the process of crafting the instructional materials or the instructional systems." When educational technologists are called upon to "solve" educational problems, we often fail to recognize that it may be our (educational technologists') own perceptions of the problem which shape our solutions. Kegan and Lahey (2001) ask "Why are the outcomes so frequently pale in relation to the vivid color of the aspirations? Why does so little real change actually occur? Why do the reformers so often reproduce something that looks too much like the original model?" (Kegan & Lahey, 2001, p.62)

Kegan and Lahey (2001) suggest that in the primary and secondary sectors of education,

> curricular designers and school reformers have been (though unrecognized) creating a narrative about change for much of this century. In various seasons, whole schools, schools systems, or national reform movements crystallize a shared [public] commitment to bring about important changes in how our children are schooled. As anyone knows who has followed these well-intentioned waves of reform, there is always,...a lot of slip between the cup and the lip...Noble aspirations often lead to little change. The mighty mountain heaves and gives forth a mouse. (Kegan & Lahey, 2001, p.61-62)

Kegan and Lahey (2001) offer some of the familiar responses, commonly attributed to others or unanticipated circumstances, such as:

> They undermined us.
> Resistance.
> Expectations were too high, and people thought we could do too much, too quickly.
> The population we were dealing with was too difficult.
> We didn't have adequate resources.
> There weren't enough of us.
> A real reform takes ten years, and the average superintendent stays less than five.
> In the end, top management lacked courage. (Kegan & Lahey, 2001, p.62)

All of these sound extremely familiar. I have heard each of these excuses and have already uttered a few of them myself. While any of these could be true, Kegan and Lahey (2001) suggest, that "a bigger piece of the problem may rest with the reformers themselves." (p.62) No matter how much effort we put towards our vision, "the public heaven we are trying to bring to earth", might we also be working– with better results – in service of our own self-protection, "to a private hell we are trying to keep *away* from earth?" (Kegan & Lahey, 2001, p.63)

Design as emancipation

The empirical-analytic view has been dominant and 'sanctioned' in the educational technology field, but as Knoetting and Januszewski (1991) suggest, other forms of theory building can also contribute to the knowledge base and can provide other means of exploration. For instance, historical-hermeneutic theory, which is interpretive, can be used to gain a "better understanding of social construction through consensual agreement", while critical theory, whose primary interest is emancipative, can be used to gain insight "through a process of reflective critique." (Knoetting and Januszewski, 1991). It is also important to understand the discourse that underlies the materials that are

being produced, since the "field is not neutral but centered around cultural reproduction." (Yeaman, Knoetting, & Nichols, 1994). As Damarin (1991) asserts, educational technology is "thoroughly saturated with the biases of its root disciplines and curricular contexts."

What are some of the ways in which we may arrive at more inclusive, respectful and emancipative 'technologies of education'? P.K. Jamison (1994) suggests that feminist theory may be used by educational technologists as a means to explore "how individuals' lived experiences often differ from those defined within the current educational technology systems." From a scientific perspective, Sandra Harding (1996) suggests that there are ways to "maximize objectivity" in research so that gaps in the way things are and how they should be, according to certain groups, become apparent. This can be achieved through the use of standpoint theories which claim that "all knowledge attempts are socially situated..." (Harding, 1996). "Standpoint epistemology sets the relationship between knowledge and politics at the centre of its account in the sense that it tries to provide causal accounts - to explain- the effects that different kinds of politics have on the production of knowledge" (Harding, 1996). Similarly, Knoetting and Januszewski (1991) suggest that critical theory may be used to "gain insight into seemingly 'given' realities, and through a process of reflective critique, we can examine the social construction of reality and seek ways to analyze the contradictions found in reality (the 'is' and the 'ought')" in order to bring about change.

> We tell stories on ourselves, not for the purpose of humiliating or diminishing ourselves but to begin putting them in a place where we can look at them and learn from them. We tell stories so we can stop *being* our stories and become persons who *have* these stories. We tell these stories so that we can become more responsible for them. (Kegan & Lahey, 2001, p.37)

Please excuse me as I call upon a truism from the realm of pop-psychology and self-help but it seems appropriate to my point – *the only person that you can change is yourself.* From this standpoint, the only change that a designer or researcher can make is in his/her own practice. In this sense, the purpose of reflection and research is aimed at making changes *within* rather than telling *others* how to improve *their* practice. This does not mean that you cannot be involved in facilitating change in others' practice or that you should not care or be concerned with those that you work *with.* But it does mean that you cannot change others yourself or make them change, they must do this out of their own volition and initiative.

Design as transformation

> You see things; and you say, "Why?" but I dream things that never were; and I say "Why not?" (George Bernard Shaw)

There are many different ways to arrive at transformation. As stated by Yeaman, Knoetting and Nichols (1994), there is no single critical theory, just as there are feminisms, multiple forms of feminism, rather than one specific construct. In fact what Damarin (1991) suggests is the rethinking of the "monolithic hierarchical structure of 'educational technology'" into a "group of diverse 'technologies of education' " derived not only by educational technologists but teachers as well as other concerned participants. Real empowerment can occur when the "outside experts" recognize the need to share their authority with the "inside experts" because only the latter can "relate their daily practice to a particular set of circumstances, a situationally specific context." (Schubert, 1991, p.211)

In reviewing the literature on curriculum, supervision and teaching Schubert (1991) states:

> Many authors appear content to treat teachers as central to the curriculum implementation process but rarely note that implementation, when separated from curriculum development, is a construct that leans heavily in the direction of behaviorist orientations. If teachers *implement* that which "wiser" curriculum leaders select and bestow upon them, and if they *implement* that which evaluation experts assess, then the holistic character of their work (that which gives meaning and direction) becomes disconnected and *deskilled* (Apple, 1986). They become akin to participants on assembly lines rather than professionals who conceptualize, act, and reflect on work derived from deep commitment. The union of theory and practice, the praxis that makes them professional, is disembodied. (1991, p.209-210)

According to Schubert (1991), others have placed emphasis on the "the teacher's place throughout the curriculum development process," defining "curriculum as that which is experienced by teachers and students through their interactions...and its value is found in the extent to which it helps participants create and draw upon knowledge that gives meaning and direction to their experience (p.210)." This view is also reflected in the supervision and staff-development literature that "recognizes the need for democratic interaction and acknowledges the expertise of both the supervisor and the supervised, of both the staff developer and the staff" (Schubert, 1991).

> Large-scale educational reform has long been problematic for educators of every persuasion. For those distrustful of the ability of teachers to deliver the curriculum appropriately, the challenge has long been how to get those pesky teachers, who have their own ideas about what is good for their students and are resistant to change, to implement the reform. This approach has led variously to attempts to develop 'teacher - proof' curriculum materials, or to the introduction of stringent forms of accountability that leave no room for teacher recalcitrance. On the other hand, for those who value and privilege the work of teachers as curriculum constructors, large-scale curriculum reform is problematic because it inevitably impinges upon teacher judgement and school decision-making. (Grundy, 2002, p.55)

What are the implications of this for instructional design? I believe that those who view teachers primarily as implementers of a preexisting curriculum will focus on guiding them through a "proper" implementation of the intended program of study. In this case, the role of instructional designers is to train or to design training that will help teachers to implement specific subject areas or teaching techniques in their classrooms. But as Kress (2000) points out:

> our interests in representation and communication at a particular point are never readily matched by the existent semiotic resources, but rather that we choose the most apt forms, the forms already suited by virtue of their existing potentials, for the purpose of representation of our meanings. As there is never a total 'fit', the resources are always transformed. (Kress, 2000, p155)

Those who view the teachers and students as active participants who interact with a curriculum that is fluid and adaptive will see teachers as reflective practitioners who are able to identify, analyze, and solve problems associated to their teaching practice. In this model, teachers' "daily inquiry" becomes viable as a form of action research that has the potential to avail "insights and understandings unavailable from other sources" (Schubert, 1991). In this latter case, the role of the instructional designer is to act as a partner in collaboration with educators who take an active role in the design of their own professional development. According to Kress this involves

> turning the current common sense system on its head. Instead of regarding individuals as mere users of a system, who produce no change, we need to see that changes take place always, incessantly, and that they arise as a result of the interested actions of individuals. It is a need on the part of individual makers of texts/messages which lead them to stretch, change, adapt, and modify all of the elements used, all the time, and thereby change the whole set of representational resources with its internal relations." (Kress, 2000, p155)

In this sense, it is futile to make tight, user-proof designs because they will be 'tampered' with nonetheless. "With this approach, use is replaced by transformation and remaking." (Kress, p156)

Lucy Suchman (2000) attempts to lay the groundwork for an approach to technology design that is informed by both feminist theory and "an awareness of the working relations of technology production and use." She suggests that while the design process involves the inscription of knowledge and activities into "new material forms", the process of designing can result in the transformation of design processes themselves. These transformations, might entail the following:

> 1.Recognizing the various forms of visible and invisible work that make up the production/use of technical systems, locating ourselves within that extended web of connections, and taking responsibility for our participation;
> 2.Understanding technology use as the recontextualization of technologies designed at greater or lesser distances in some local site of practice;
> 3.Acknowledging and accepting the limited power of any actors or artifacts to control technology production/use;
> 4.Establishing new bases for technology integration, not in universal languages, but in partial translations;
> 5.Valuing heterogeneity in technical systems, achieved through practices of artful integration, over homogeneity and domination.

Suchman's aim is to begin to displace the binary opposition of the designer and the user "that closes off our possibilities for recognizing the subtle and profound differences that actually do divide us." She suggests a move towards "a rich, densely structured landscape of identities and working relations within which we might begin to move with some awareness and clarity regarding our own positions". (Suchman, 2000)

> There is a critical piece too often left out of the organizational change process. It rests on a simple premise with a single corollary. The premise: it may be nearly impossible for us to bring about any change in a system or organization without changing ourselves (at least somewhat). The corollary is that for every commitment we genuinely hold to bring about

> some important change, there is another commitment we hold that has the effect of preventing the change. If stories of organizational reform and change we continue to create are such partial stories, stories that only tell half the truth, we cannot expect to succeed. (Kegan & Lahey, 2001, p.63)

Design as praxis

> Whereas positivism saw the educational practitioner as an instrument for the technical application of educational theory, critical theory has regenerated the Aristotelian idea of *praxis*, of theory and practice growing and developing in unison. Praxis is thus practice subjected to critical scrutiny, a scrutiny of empowerment for those engaged in the process and one which is based upon social and educational values. The practitioner engaged in *praxis* learns from the outcome of practical actions taken, and through critical reflection adapts his or her educational theories accordingly. *Praxis* is thus learning and adapting one's educational theories and practices in the light of critical reflection on actions taken to serve educational and social purposes. (Webb, 1991, p.124)

> Praxis assumes a continuous process of critical reflection that joins and mediates theory and practice. (Schubert, 1991, p.214)

Januszewski (1992) states that one's conceptions "will help to determine not only how that individual views the field of educational technology but also how that concept guides the individual's actions within the field." A design team's methodological choices are epistemologically driven, whether or not they have been explicitly articulated. As Hawkridge (1991) suggests, "we cannot design without intentions or purpose. Intentions are guided by values, therefore design (and educational technology) cannot be value-free." And, so we are left with some important questions - What are the experiences and values that inform the views of the producer? How do these views affect the outcomes of design and development initiatives?

Chapter 3 – Methodological Framework

Designing the self-as-practitioner-researcher

The Emergence of a "New Scholarship"

> As the university moves to accept and develop its role, not just as a museum of learning but as an agent of change, so it has to accept the shift in its measures of quality from an emphasis on publication to a concern for the educational process. This is a shift that calls for a different conception of expertise, other ways of looking at what counts as research and new forms of relationship with its students, with its community and with the world at large. (Schratz and Walker, 1995, p.149)

Eisner (1997a) suggests that the classical approach to educational research has been top down and is "predicated on the assumption that the knowledge secured as a result of careful study can be conveyed to practitioners through university course offerings, in-service education, journals, conferences, an the educational equivalent of agricultural extension workers: people who know and who carry the message down to others." (p. 10-11) Unless the rules about what counts both as "legitimate knowledge and as appropriately rigorous research" are changed, there will be little room for new scholarship into teaching and learning." (Schön, 1995, p. 34)

Schön (1995) argued that problems of concern to teaching and learning that arise from and are studied in their actual contexts cannot be controlled through the use of true control groups, random assignment, by eliminating potentially confounding phenomena, in other words, these situations cannot meet the rigorous standards of normal science. In short, Schön (1995) suggested that the new scholarship requires a new epistemology, one that includes reflective practice and action research. Schön (1995) admitted however, that in the present context of the university, those who attempt to introduce action research models of inquiry often find themselves bound by what he calls a "double impediment."

On the one hand, is the pervasive power of the predominant research epistemologies and on the other is their inability for new scholars to make their practice into research that "counts."

> In order to legitimize the new scholarship, higher education institutions will have to open up the prevailing epistemology so as to foster new forms of reflective action research. This, in turn, requires building up communities of inquiry capable of criticizing such research and fostering its development. (Schön, 1995, p. 34)

Avenues for Design Research

> Design deals in human interactions with artifacts and situations that contain a great deal of uncertainty. Design research is tied to a domain that derives its creative energy from the ambiguities of an intuitive understanding of phenomena. And while we may criticize an imbalance of too much self-expressive art with design problem-solving, the traditional root of intuition, inspired guesswork, and holistic thinking should not be lost in a revised version that contains rational judgements and processes to ensure an informed intuition. (Swann, 2002, p.51)

What are the implications of this "new scholarship" for instructional design? In his article *Action Research and the Practice of Design*, Swann (2002) suggests that design has traditionally been viewed as an "action process" and that for it to be viewed as a research activity, "it must be made visible." Swann continues that interpretive forms of qualitative research are better suited to "the designer's personal interpretive analysis of problems, and the creation of potential solutions based on individual insight" (2002, p.51). According to Swann, the "iterative process of plan-act-observe-reflect entails reflection in-action," followed by "reflection on-action" that encompasses action research parallels the conventional design process but "is enhanced by the transparent structuring." (2002, p59).

Research as Practical Knowledge

Eisner (1997b) stated that Schwab in a 1969 lecture at AERA advanced a view that pertained to the "centrality of practical knowledge in the context of action." According to Eisner, Schwab's claim was that teaching and curriculum development involved practical activities, in the Aristotelian sense – that is, practical activities are activities aimed at making good decisions, not truth seeking activities. These activities deal with contingencies rather than causal laws, and they are context dependent. Those engaged in practical activities make use of theory as a rule of thumb rather than the rule. Eisner (1997b) continued that practical activities require deliberation and can at their best exemplify the Greek concept of *phronesis*, referring not simply to knowledge but also to "wise moral choice", ie. practical wisdom (p.261). What this meant for researchers was that "knowledge need not be defined solely in the positivistic terms that had for so long dominated the conduct of educational research and that theory itself had limited utility in the domain of practice." (Eisner, 1997b p.261)

The "New Frontier" Educational Research

According to Eisner (1997b), around the same time as the Schwab lecture, the emergence of the "new frontier" grew out of dissatisfaction with older paradigms, and with an increasing inclination towards cognitive pluralism, and in new ways of conceptualizing the very nature of what constitutes research. For a more detailed explanation of the tendencies, I recommend a thorough reading of Eisner's paper - *The New Frontier in Qualitative Research Methodology.* For the purposes of this inquiry, the key point to retain is that by the late 40's and 50's attention was (re)focussed on the timely, the local, the oral and the particular and as a result qualitative educational

research emerged. When qualitative research appeared as a viable framework for educational researchers, the initial reflex was to turn towards ethnography as the form within to base their research. Eisner (1997b) suggested that the adoption of another type of social science proved to be "far less wrenching than a move from a social science to an arts- or humanities-based approach to research." (p.262) The recent inclusion of the arts in the educational research portfolio has raised many an eyebrow.

> The idea that the arts could provide a basis for doing research is itself regarded by more than a few as an oxymoronic notion. Yet, increasingly, researchers are recognizing that scientific inquiry is a species of research. Research is not merely a species of social science. Virtually any careful, reflective, systematic study of phenomena undertaken to advance human understanding can count as a form of research. It all depends on how that work is pursued. (Eisner, 1997b, p.262)

Values of Art

Eisner's comment that "it all depends" is important being that "arthood" is a relational property and hence what constitutes a work of art is relative to a particular artworld (Young, 2001). The term artworld here is used in a loose sense, rather than pointing to the existence of *the* artworld. Young (2001) suggests that "as many artworlds exist as there are groups of people who are in general agreement about the membership of the class of artworks." (p.4) In Young's view, a work of art can have two kinds of value – one is hedonic, in that it creates pleasure, the other is cognitive, in that it "provides a capacity to seek new mental states... it functions to provide knowledge" for the audience (2001, p.18). The kind of value that is of interest for the purposes of this inquiry is the latter, although arguably, a work of art could have both cognitive and hedonic value (among others) in the eyes of its audience. Young (2001) argues that works of arts

possessing cognitive value (in his definition, something is a work of art *only if* it has cognitive value) can contribute to human knowledge:

> A common human interest provides an especially strong practical reason for the adoption of guidelines that encourage the production of artworks with cognitive value. I refer to a strong interest, not universal but widespread, in understanding ourselves, our emotions, our relations with each other and our place in nature. We have pragmatic reasons for wanting to understand these matters, but we also have an idle curiosity about them. Unfortunately, the sciences and other forms of inquiry have not been altogether successful in casting light on these subjects. I believe that some stories, paintings, musical compositions and so on have the capacity to provide audiences with extremely valuable insights into these matters. Many of these works are, I think, much more valuable than ones which perform only a hedonic function. The insights provided by these works are all the more valuable because they are only obtainable by means of these works. (Young, 2001, p.21)

Art as Inquiry

> Not only is the process of art making a means of understanding for the artist, it is also a vehicle for sharing these understandings and discoveries with a public audience... The making of art, any art, at some level is about both understanding and communication. Recognition of quiltmaking as art, an artistic endeavor, expands the role to other segments of the population and thus their views and ideas. (Ries, 1996, p145-146)

> It shouldn't be such a radical idea to conceive of art as an empathetic exchange between artist and audience, a collaboration in communication where process is as important as product. (Lippard, 1983, p.36)

Swann (2002) recognizes that there are multiple of ways to construct knowledge and that visual form is a form of knowledge. He states that visual form "is a means of encapsulating ideas, and indeed some ideas are expressed more powerfully through the visual medium than any other form of communication" (p.52). Young (2001) argues that both artistic and scientific inquiry can contribute to knowledge. "Works of art, like work of science, contribute to knowledge by interpreting experience. Experience and interpretation are both necessary conditions of knowledge" (p.107). Young (2001) states

that while the arts and sciences are both engaged in two cognitive functions. The first function is testimony – a record of observations, and the second is interpretation – an attempt to understand the record (p.66).

> The "research" that artists create will most likely look different than that produced by traditional researchers. It would work like art always does - provoking and moving audiences through its communicative power and unique perspectives. Still it might simultaneously work as research - using systematic investigative processes to develop new technological possibilities or to discover useful new knowledge or perspectives. (Wilson, 1996)

> By infusing art into inquiry and inquiry into art, arts-informed research bridges the gap between art as archival material/art for art's sake and research, between artist and researcher, and between art-making and theorising. (Knowles et al, 2002)

According to Knowles et al (2002) arts-informed inquiry has emerged from the "productive fusions and tensions among qualitative inquiry and the fine arts." Through its exploration of the language and genres of creative writing and poetry, theatre and drama and the visual arts as ways of producing knowledge it is changing the face of social science research. More than a method, an approach, or set of procedures arts-informed inquiry " is a means to redefine form and representation and recreate new understandings of process, spirit, purpose, subjectivities, emotion, responsiveness, and the ethical dimensions of inquiry " (Knowles et al, 2002).

Quilting as Art, Social Text, Method, and Metaphor

> Modern quilt culture is both grounded by the ideological foundations of these traditions and stimulated by the infusion of new ideas, techniques, meanings, and opportunities of a dynamic society. A dialogue with the past is important to contemporary expression. Such juxtapositions of tradition and innovation demonstrate an on-going negotiation between the values evoked through past practices and the circumstances of contemporary life. (Cerny, 1997, p. 96)

As I became interested in pursuing quilting as research method, I conducted searches to uncover others' academic and artistic pursuits in the area of quiltmaking. I discovered the American Quilt Study Group, which is an organization dedicated to supporting and publishing research associated with the history of quilts and quilt making. I felt a need to become associated with, connected to others with similar artistic and research interests. I found kindred spirits in the literature, in art publications and amongst other women, works of art that elicited excitement and words I could have spoken or written.

I am mindful of the history of women's work, of the notion that women's voices have been spoken and heard through their handiwork, their crafts, their sewing. Quilts have always served various functions in women's lives that extend beyond their capacity for providing physical warmth and protection, yet "(o)nly recently has the import of the quilt as visual historical *text* been realized...quilts are now examined as rites of passage, statements of political allegiance, and as avenues for religious and aesthetic expression (Ferraro et al., 1987)." (Ettinger & Hoffman, 1990)

Quilt Research and Quilting Practice

> As the quilters talked about the quilts they were constantly reminded of some other parts of their lives, a story about pioneering times, an anecdote about a family member, or some technical detail of quilting. The quilts seemed to be the format in which they had condensed much of personal, family, and community history. Talking about the quilts often triggered memories of stories they had heard from their mother or grandmother over the quilting frame. That common task which had brought them together to sew also brought them together to talk and exchange stories. In a similar setting they passed on to us what they had heard. (Cooper & Buferd, 1977, p.19)

My search of the keywords 'quilt' and 'quilting' in the UMI electronic dissertation abstracts database revealed over 150 studies in such fields as Fine Arts, Education, Cultural Studies, Anthropology, History, Literature, Theology, Sociology, and Women's Studies. Some projects involved the historical, structural, or interpretive analyses of existing quilts and the examination of quilts as art (Hood, 2000; Peterson, 1999; DeVaul, 1998; Albritton, 1997; Roycroft, 1996; Stancil, 1995; Tanchyk, 1990; Harding, 1982; Wahlman, 1980; Drew, 1974) and as social texts (Thompson, 2000 Beaudoin, 2000; Crossman, 1999; Young-Minor, 1997; Feazell, 1995; Hoffman, 1991; Elsley, 1991; Williams, 1990; McGinty, 1988; Hammomd, 1981). In her dissertation *The Semiotics of Quilting: Discourse of the Marginalized*, Judith Helen Elsley argued that much had been written "about patchwork quilts as a reflection of women's social and cultural status." Instead, her study focused "on the quilting process as a paradigm for women finding their own voices in an androcentric society when more traditional forms of communication--speaking and writing--were not freely available to them" (Elsley, 1991, dissertation abstract). A few studies dealt with the teaching of quilting both in the elementary (Kershaw, 1996) and secondary (Pitts, 2001) curriculum, and other with its context in art education (Mason, 1983; Richardson, 1969). Several studies focused on or included the *Names Project* AIDS memorial quilt (Clark, 2000; Diehl, 2000; Myers, 1999; Oswald, 1998; Shaw, 1998; Ellenhorn, 1997; Mayo, 1995; Schwartz, 1995; Brown, 1994; Lawlor, 1994; Konick, 1993; Krouse, 1993; Mindel, 1993; Sturken, 1992).

There were numerous historical, anthropological and sociological analyses of quilters and quiltmaking (Stalp, 2001; Rake, 2000; Wilker, 2000; Dunnigan, 1997; King, 1997; Todd, 1997; Shepard, 1995; Przybysz, 1995; Hazard, 1993; Stevens, 1989;

McIntosh, 1988; Cerny, 1987; Roach, 1986; Weidlich, 1986; Ice, 1984). In her study of the Canadian quilting revival from 1970 to 1990, Woods (1993) found that "quilting fulfils a number of human needs, ranging from public recognition to private creativity. In addition it allows some women to create identities centred in the 'quilting world'."

> Quilters use their activity to create a popular public identity and to resist attempts to devalue them. However, quilting is no longer a rural, family-learned activity, but is most often learned in urban, formal classroom situations. Although early feminism was centred in quilting groups, contemporary quilters do not seem likely to become political activists. More sociological investigation into the value of leisure is needed, especially as such interests become 'life-organizing' activities. (Woods, 1993, dissertation abstract)

Certain studies involved the production (Kristen- Scott, 2001; Ball, 2000; Smith, 2000; Cornutt, 1999; Glenn, 1998; Beghin, 1997; MacDonald, 1996) and analysis of quilts or quilt blocks as the method of inquiry (Steeves, 2000; Kerewsky, 1997) and even the production of an electronic patchwork quilt (Robitaille, 1998). In *Quilts as Social Text*, Helen Kathryn Ball (2000) explored the "discursive practices of social scientific knowledge production" through the "creation of quilts as social texts that are able to communicate across disciplinary boundaries and traditional representational practices."

> Women and men who were recovering from childhood trauma were asked to represent their life experience in quilt blocks. Participants provided written descriptions of both their quilt blocks and the quilting process. I explore and experiment with the representation of voice(s) through the creation of a reflexive research process and experimental textual style. (Ball, 2000, p.i)

In *Stitching the sacred: Bound in the bundle of life*, Catherine Cornutt (1999) created a liturgical quilt based on images found in two verses of scripture that reflected her "belief that everyone, regardless of gender, race, colour, sexual orientation or

religious belief is at home in God's bundle." Later, she shared her work with others in order to engage them in a spiritual dialogue.

> I have presented the quilt to people and encouraged them to respond. People told me their stories of how difficult it was in their own lives to relate to the religious buildings that were stitched on the quilt. When it came to the bundle of life, people could more easily relate and readily engaged. They shared their dreams and hopes about humanity, and how there needs to be interdependency among people fostering mutuality, dignity and respect among all people. I have written the stories people told me when they engaged with my quilt. I have extracted themes and common threads from their vignettes. I have tied Feminist theology and theory together with my own stories and reflections to produce a tapestry of shalom, healing and wholeness. I invite observers to enter this world and to listen to their own stories through the medium of my liturgical quilt. (Cornutt, 1999, p.v)

Many scholars used quilts and the quilting process as metaphor in their works (Peterson, 2000; Fenimore, 1999; Scott, 1999; Soong, 1999; Birch, 1998; Hardy, 1998; Horrigan, 1998; Pennell, 1998; Winters, 1998; Douglas, 1997; Tobey, 1997; Applebaum, 1996; Harper, 1995; Moore, 1995; Page, 1995; Todd, 1995; Hunter, 1993; Learn, 1993; Singleton, 1991; Barton, 1991; Hudson, 1990; Booth, 1988; Merrill, 1988; Riches, 1988; Nofs, 1985). For example, Pamela Ann Steeves' (2000) doctoral thesis involved the analysis of the "complexity of the school landscape" as a "reimagination of school reform as unique works of improvisation, like a crazy quilt." Others conducted studies of literary texts whose authors used quilts and quilting as themes or metaphors in their novels and poetry (Lecourt, 1999; Coleman, 1998; Sanchez, 1998; Palumbo, 1997; Direnc, 1996; Manning, 1995; Hunter, 1993; Scheidenhelm, 1993; Freedman, 1989; Dawson,1987).

Sommers (1997), a doctoral student, used her experiences at a quilting bee as a metaphor for her discussions with peers comparing quantitative and qualitative research

processes. She shares the stories of two Amish women that she met at a quilting bee hosted by her grandmother. For Sarah, the purpose of her first quilt was to "share who I am and how I see life," while while Elizabeth "chose to make a Straight Furrow Log Cabin quilt because that was the pattern both her mother and grandmother had chosen for their first quilts and reflected the emphasis on conformity so prevalent in her Amish community" (Sommers, 1997). She goes on to explain the purpose of the quilting metaphor:

> Sarah and Elizabeth had different stories to tell because they had different objectives just like our research approaches, experiences, and questions vary. Both of these Amish ladies contributed to the art of quilting and produced finished products which were noteworthy, and both qualitative and quantitative researchers have the opportunity to contribute to the field of education in spite of their diverse approaches and philosophies. Instead of asking which method has a worthier process and produces a better product, conversations with fellow doctoral students should focus on which method matches our individual goals and enables us to tell the story we desire to share. (Sommers, 1997)

Positioning Myself as Practioner-Researcher

> Qualitative researchers stress the socially constructed nature of reality, the intimate relationship between the researcher and what is studied, and the situational constraints that shape inquiry. Such researchers emphasize the value-laden nature of inquiry. They seek answers to questions that stress how social experience is created and given meaning. (Denzin & Lincoln, 1998, p.8)

Researcher as Bricoleur

I recognize myself in Denzin and Lincoln's description of a "new generation of researchers who are attached to poststructural, postmodern sensibilities" in that I believe that "positivist methods are but one way of telling a story about society or the social

world. They may be no better or no worse than any other method; they just tell a different kind of story." (1998, p.9-10)

Denzin and Lincoln (1998) apply Lévis-Strauss and Weinstein and Weinstein's notion of *bricolage* and *bricoleur* to qualitative research methodology.

> The *bricoleur* understands that research is an interactive process shaped by his or her personal history, biography, gender, social class, race, and ethnicity, and those of the people in the setting... The bricoleur also knows that researchers all tell stories about the worlds they have studied. Thus the narratives, or stories, scientists tell are accounts couched and framed within specific storytelling traditions, often defined as paradigms (e.g., positivism, postpositivism, constructivism) (p.4)
>
> ...research design is a creative act in which the researcher is obligated to actively take part. (Hoffman, 1996, p.160)

I believe that the act of conducting research in the social sciences is a no more or less a constructive act than that of producing art work. The products of either of these efforts – *texts* - are constructions whether they take the form of essays, poems, articles, reports, dramatic performances, paintings, or films. The difference is their syntax and the community of practice with which they are associated. Social interaction mediates the kind of personal and practical meaning making that is valuable to the community of practitioners and in turn how this meaning is shared within the group. An important demand of membership in a community of practice is that one learns the syntax and structure of its texts and the methods that are employed in their production in order to derive meaning. In other words, this involves learning that particular group's language whether formally, informally or non-formally. It also involves developing an understanding that is one's own and making sense and producing meaning from that which was once foreign.

Since it is possible to belong to more than one community of practice and to live out multiple roles concurrently, it would follow that one's multiple allegiances might serve to blur and/or render problematic the existing boundaries and create connections in otherwise disparate spaces. In my case, this would result in a blending of art as well as educational theory and practice, art about research, design practice and academic practice. As Greene states, "New modes of ordering, new vantage points may bring the unseen into visibility, may make the taken for granted palpable and strange." (Greene, 1988, p.178)

Defining myself as an artist-researcher...

> In artistic approaches to research, the major instrument is the investigator (her)himself.(Eisner, 1985a, p.196)

Where do Christine the practitioner-researcher and Christine the artist meet? I have been struggling with ways to adequately represent the voices of others, both as an artist and researcher. As a result, in much of the artwork that I have created (apart from those produced from model sessions held during art classes), I have used myself as the subject/object. While this could be seen as an obsession or preoccupation with the self, it was for me an experimental way to satisfy my need to understand representation without/before putting anyone else at risk or in a vulnerable, uncomfortable position.

> One often does research in part to discover more about oneself. This is not to say that it is self-indulgent, but that it is chiefly through the self that one comes to understand the world. (Woods, 1996, p.1)

A few years ago, I attended a screening of a film on the life of Eva Norvind an actress, prostitute, photographer, filmmaker, dominatrix, turned therapist in her mid fifties. In the opening scene of the film, Eva is riding a bicycle, her voice narrates: "I

wonder if I will see myself in this film?" She was at the screening and spoke to the audience about her life and her feelings about the film. She could no longer relate to many of the images of her past as a starlet in Mexican action films, "It's as if that was another person..."

Afterwards I asked her about the opening scene. I still wanted to know, "Did you see yourself in the film?" She replied: "Well, yes, but only a part of me. It's difficult in two hours..." I asked her if she had ever considered making a film about herself. "Well yes, this evening - while I was watching, I was thinking about it. I have a bunch of ideas."

I am including this anecdote for many reasons. Firstly, to point out that I believe that in any study or other form of representation the artist/researcher will only become familiar with certain aspects of a person's life and through her/his interpretation will only be able to make public a slice or fraction of that part. While this aspect that is made public is informed by and narrated through the researcher's point of view, in that it is the product of her/his efforts, attempts should be made to remain just to its 'subject'. By this, I mean that those who are being represented should be able to 'recognize' themselves and should be able to take an active role in the creation process. It is important for me that those who participate in this project to 'see themselves' in it, both during the production and in the artifact that is created.

This said, I believe that our lives are fluid and ever-changing. We are continuously transformed through/by our experiences, which are mediated by our senses and previous experiences. In this sense, it is difficult to isolate past experiences and view them as we did in that particular context, because we have since changed. We can

speculate about 'what was', but we are no longer there. This is why Norvind's comment "It's as if that (sic)was another person" intrigues me. Will my colleagues and I come back to this work in a few years with similar thoughts?

Chapter 4 - Research Design

> Qualitative models using either denotation or metaphor do not purport to supplant linguistic-based analyses but rather to allow a qualitatively different grasp of a phenomenon, functioning as "cognitive instruments" (Black, 1979). This is achieved by stimulating a wider variety of neural processes through spatial arrangement, color, shape, and figures in what has been referred to as "cognitive art" (Tufte, 1990), and the "envisioning" of information "at the intersection of image, word, number, and art" (Tufte,1990, p. 9) in a unique balance of textual and visual interpretations. (Radnofsky, 1996)

In an attempt to link my art practice with my educational research practice, and in the spirit of reflective practice, I wanted to create a quilt that would act as a vehicle for reflection on our experiences as a design team while developing a flexible learning network for teachers. What I was attempting to do is to use quilting as a metaphor for our process but also use quilting as a research methodology.

Quilting as Metaphor for the Collaborative Instructional Design Process

> Conceptually this project was constructed like a quilt. The various themes lent organization and content to the whole. Layers of information were gathered and evaluated with respect to other information pieces. Some were discarded, others were stitched into the accumulating project fabric, and still others were set aside for future projects. The design was dynamic and flexible, receptive to altering course in light of unexpected discoveries. (Ries, 1996, p126)

Just as Ries (1996) uses quilting as a metaphor for her inquiry process, I used it as a metaphor for the *qesn.connection* project. My initial musings in the Fall of 1998, occurred in my sleep. I awoke and was inspired to pick up a pen and write the following:

This project is {like} a quilt.

I have been thinking lately, that all I want to do is make a quilt - really.

I woke up at 3:39 this morning from a dream, or an idea. I jolted awake.

Yesterday, we had a meeting about how we are going to evaluate this thing, how it's going to be implemented, etc.

We also spoke about explaining it to other people, writing articles, presenting at conferences etc.
I've been thinking that we've had so much trouble talking about this thing, and really it's all pretty simple - why is it so difficult for us to make it clear?

The underpinnings

- the backing of the quilt
the theoretical underpinnings of the project - words, quotes that inspire us, things we have written

The filling

- our experience/ collectively - filled with what we each bring to the project
Symbolically: which comes through on both sides of the quilt: what gives the quilt its squishiness

Top of the quilt

-it's the surface, it's what people get to experience most tangibly but they really experience all the layers through the quilting which joins them - the technology is what sews this thing togther

Pieced together: Blocks

for us, for those who will engage in the process

- -context
- -construction
- -collaboration
- -conversation

-these are sections that are interdependent and have been followed though the process

-each school is like a block within the border - each is different but will be united to the quilt - each school builds it own quilt

-the quilt is also a blending of old and new - the sewing machine (and computer) is the (new) technology but the practice of quilting is old

-what we want to achieve in the school is similar to a quilting bee/circle

- -teachers work together to build a quilt of their own
- -each teacher works on a block but gets help from others
- -we provide the backing and the filler - the materials/tools for the quilt
- -the computers/sewing machines - you can do whatever you want with them
- -we're supplying the templates but they can be modified
- -we can give some coaching but the actual construction is up to each school
- -how it all fits together is the reflection and planning for the next quilt

Border : the contribution of others that help to form the project

interrelated and intermingling: 4 C sections

context: background/foreground: each will be different

construction: for the top, methods used/process will be different

collaboration: making the thing itself , different types will occur together, how each of us fits

conversation: negotiating the space, each conversation will be different because each process is unique

but the making of the quilt gives us a reference point to talk about some aspect of what is occurring in each school

Form & content:

Theoretical + Experience

The meanings

Methods: how we make it

How we communicate the making of it

The threads which bind the three layers of the quilt are referents to each layer - join the underpinnings/experience to make the process - triple-loop learning - the technical, participatory, emancipatory.

The backing: How should we do it? Are we doing things right?

The filling: What should we do? Are we doing the right things?

The top: Why design? Who will benefit? Is rightness buttressed by mightiness and vice versa?

Quilts are as much about the process of making as they are about a finished product

What do you evaluate about the making of a quilt?

Is it the final quality of the stitches?

Is it the appearance of the quilt?

Is it the surface detail of each block?

Or is it the story behind the block, the experience of making it - the stories of the puckering and problems joining the pieces together, the difficulties which make it all the more valuable

Why a team?

- an individual can make a quilt
- but a group of individuals can make a bunch of bocks or quilts together, have an opportunity to get together and make a point of piecing and joining the cloth - getting it done by setting aside the time
- everyone gets a quilt in the end that is theirs (or whoever the quilt is meant for) but each one is a collaborative work
- another model has an expert quilter at the helm and others must quilt according to her design, in the end a quilt is made by everyone, but most of the decisions are made by the expert
-yet another way, the crazy quilt/democratic method - quilters decide as a group what the theme for the quilt will be and each quilter makes a block that is hers, yet fits into the quilt as a whole which they will piece and quilt together

This is the first time we've made a quilt together

-the fabric has puckered

- we've argued about making the quilt or making something else

- at many points we didn't know how to explain what we were making - sometimes we're still tongue-tied

- we sometimes have problems because people don't know a hand-crafted quilt from a synthetic Walmart bedspread.

We could have made this project so that each quilt would be constructed in the same way

-precise instructions could be given so that each quilt would look similar

-the fabric used would have been different, so the surface patterns would be slightly altered, different colors but the blocks would all be 6" squares for each quilter pieced together appropriately so as to ensure that each quilt would have the same structure

- we could have exercised this type of control, it would have made it easier to compare the quilts from each circle

Instead we have provided some tools and a framework but no real prescriptions as to what the quilt should look like

-we may end up with some gorgeous, creative works of art or some simple throws or something in between

but it doesn't really matter so much, because it isn't the final quilt that will be shown, it's not the exhibition that is the final goal
it is that each person's block somehow gets attempted and placed somewhere on the quilt, no matter how expert the quilter

Our quilt may end up looking quite different than that of each school
Maybe it's harder to make a quilt than we thought.
Maybe it will be a thing of beauty - all quilts are in their own way.

How do we critique it?

We can take an expert approach or we can let the quilters speak to it, tell their stories and maybe tell us individual stories about specific blocks
Talk about the form & content, let it speak for itself ñ as text

Incorporation of technology in the traditional quilt-making process:

-use of digital images
-designing with computer software
-scanning sketches

Blending theory and practice: research about research, art practice & academic practice

-art as a site to discuss, reflect on experience,
-the creation of text that can be deconstructed
-a reconstruction of events/experience through the participation of the key players in the process

Reflecting on a shared experience through the construction of something else that represents that shared experience.

The creation of this metaphor afforded me a way to view our design efforts in a way that I had not been able to see or express until that moment. The purpose of using quilting as a metaphor in this inquiry was that I thought it could provide an alternative language for exploring what seemed 'natural' about our way of working. In this sense, what we commonly understand about the instructional design process is supplanted by an alternative vision. I think that Barry's comments shed some light on my intention:

> A key means of maintaining requisite symbolic stability while simultaneously encouraging fluidity is through grafting a relatively well-understood phenomenon to one we wish to loosen; that is, using metaphors. More than any other device or strategy, metaphors allow us to forgo symbolic certainty in one domain while remaining comfortably ensconced in another. (Barry, 1996, p.416)

Quilting as Method

> Throughout my visual narrative inquiry, I have learned that retelling my stories of practice brings about a different understanding of how I see my self as educated, as a knowing body, a body that wants to know. (Bach, 1998, p.221)

Salvio (2002) cites Deanne Bogdan's notion of the "poetics ordinary existence" in which an ontology of art must not be divorced from life (p. 373). It involves an "intensified perception of the quotidian" evoking the "feminine communal" as it works towards "blurring boundaries between prosaic and poetic, imaginative experience and ordinary existence..." (Salvio, 2002, p.373) As methodology, the act of quilting itself, the process of sewing, of "slowing things down" as Elliot Eisner (1999) said in his keynote address at the Advances in Qualitative Research Methods conference, and of seeing things in a different way, "making the familiar strange," was also an important aspect of the research. I also understood the quilt making process as a means of making the strange familiar. The experience of being a woman and a student in this space, in the University context, has been at times very strange and foreign to me, and I suspect, for my colleagues. To be engaged in a process of quilt making and of telling our stories is to make these stories familiar for ourselves and to bring them outside, to share them with others. They are stories that we may have told each other and that we have lived privately, but without the artifact, they have no space or place and may never be told outside, in the public. They remain untold, we remain invisible.

> While we might all agree that we tell stories, we probably will not agree on why we tell them, for story making comes out of some kind of agenda, whether stated and conscious or not. We justify, rationalize, contextualize our lives through our story making. (Elsley, 1995, p.233)

> In making quilts I am able to communicate ideas I would not be able to communicate in any other way. They are a platform for mixing art and ideas so that neither suffers. (Faith Ringgold in Bray, 1989)

Including the sense of touch

> Like silence, touch is another aspect of experience to which we tend to give little attention. Touch is important in quilting: the feel of the fabric, of the needle piercing the layers of material, of the texture of a quilted surface. (Flannery, p.635)
>
> Quilts reach into the emotions and perceptions of the maker, the recipient and the viewer. (Gebel,1995, p. 220)

One means of bringing the viewers closer to the work and to increase their comfort level is to encourage them not only to look at but to touch the work. Many people are reticent to touch artworks because they have been taught that such objects are valuable and precious. Quilts are familiar, functional objects and are traditionally associated with the provision of warmth and comfort, although they have served many other cultural purposes. This was one of my reasons for using them and their production as metaphor and method. I anticipated that viewers would feel less hesitant to come into physical contact with the object than if it were a stretched painting or drawing on paper. It is precisely for this reason that I chose to work in this medium. I decided not to make a virtual quilt for the same reasons, there could be no tactile play with the text *in the machine*. The medium would cause the viewer to feel a sense of familiarity, domesticity and of the mundane. But the subject matter, pulled out of its context, would be seen under a new light.

In the Beginning - *Showing* versus *Inquiring*

At some point when I was working on my thesis proposal, very early in the process of writing about the quilt as a metaphor and as a method, I fell prey to a syndrome that I will dub "Falling in love with my methodology". Janesick (1998) calls this "methodolatry". Elliot Eisner (1999) in a recent keynote address cautioned that those

of us engaged in arts-based research should "not become so enchanted with novelty that we forget what we want to convey." Well, I did. The whole idea of making the quilt became very attractive and appealing and I feel as though I lost my focus. It was on the bus one morning that I came to this realization. I was rereading Ming Fang He's (1999) article based on her dissertation in which she included an excerpt of a 'thesis talk' with Michael Connelly, her dissertation advisor:

> Connelly: You need to make a little shift in your thinking about the inquiry. So what does this mean? Well, I think on page 17 it means that first of all you try to give the reader a sense that you are conducting an inquiry, not so much that you are demonstrating something for the reader. In other words, I am not going to show something, I am going to study something. That is the difference between demonstration and inquiry...It is almost like you have answered it already, there is no study to be done because it is all finished...(He, 1999, p. 14)

I felt as though he were talking to me. Had I become absorbed with *showing* as opposed to *studying*? If the purpose of the quilt were to show something that I already knew, then there would be no purpose in my conducting research on our design process, all that I would have to do is make the quilt and display it. This would not be an end in itself, for, the creation of the visual text, the quilt, would only be one part of the work, only one side would have "spoken" in this conversation. The viewer would bring herself to the text and actively participate if meanings were to be generated through it.

I realized that I had defined my parameters *a prioi* rather than using the inquiry process as a guide. However, I was uneasy with my plan and it occurred to me that the static nature of the traditional quilt was becoming increasingly problematic in the context of the inquiry. If I was going to conduct collaborative reflection sessions as part of my research into our design process, then why had *I* defined a set of questions for us to ask ourselves? I had effectively designed a pseudo-participatory inquiry that was destined only to answer

my own questions and to demonstrate my understanding and my interpretation of "our" process. This is not what I had originally intended, and so, it was back to the sewing room.

More reflections on the research design process

> Visual representations of society and culture began as attempts to "show the real in all its truth" (Denzin, 1995, p.25) with still and moving cameras such as Thomas Edison's Kinetoscope, advertised as the "moving picture machine, giving pictorial presentation, not lifelike merely, but apparently life itself, with every movement, every action and every detail" (Branigan, 1979/1985, in Denzin, 1995, p.16). However, visual representation in the form of a qualitative model is not intended to reproduce an objective "reality" that could supposedly give an accurate picture to the reader/viewer. Instead, qualitative models interpret a culture or event that has been studied, but that cannot be understood in its complexity through textual interpretation alone. Consequently the construction of visual models during analysis and presentation of findings contributes to a researcher's ways of understanding the data, but does not constitute the adoption of a realist, visual epistemology in which seeing would be the primary or "most accurate" way of knowing the world. (Radnofsky, 1996)

Early on, I struggled with the notion that each block should be directly linked to one woman or to the different themes that we were working on through an interview or a specific piece of data. I decided that this approach would limit the creative potential of the quilt making. My concern was that there were issues that had been important to the group's experiences that may not surface if we attached specific events to particular people. This, I believed, would allow 'truths' to be told without making specific individuals vulnerable and without creating an atmosphere of defensiveness, which would be likely to occur without the creation of a safe space for the exploration of our roles. The essential elements remain in the stories, but they exist in a space that is once-removed from the participants. I was inspired in this endeavor by the work of the renowned African-American artist and writer Faith Ringgold. Ringgold describes her intentions in a discussion about her story quilts:

> My process is designed to give us 'colored folk' and women a taste of the American dream straight up. Since the facts don't do that too often, I decided to make it up. It is important, when redressing history as I am doing here, not to be too literal or historical. It will spoil the magic...That is the real power of being an artist. We can make it come true. Or look true. (Ringgold in Roth, 1998, p.60)

Other researchers, including Ming Fang He (1999) and Gannon (2001) have used the texts of collective inquiry as raw materials to construct new texts such as paintings and poetry. These new texts "less linear than other texts and in the pauses and gaps can leave moments where readers can insert our own lived experience and our various selves to create embodied knowledges." (Gannon, 791). Ming Fang He (1999) in her dissertation *A Life-Long Inquiry Forever Flowing Between China and Canada: Crafting a Composite Auto/Biographical Narrative Method to Represent Three Chinese Women Teachers' Cultural Experience* used a "composite auto/biographical narrative method" (He, 1999, p. 9). Her method was comprised of writing collective auto/biographies, "extending first person singular accounts of existence and temporality to entities beyond the individual (Carr, 1986) by chopping plotlines into pieces and piecing those bits together through collage stories (Dillard, 1982) and collective critique" (He, 1999, p.9). This served as a means of collaboratively exploring the three women's experiences and then transforming these collaborations into texts through "collaborative interpretation" (He, 1999, p.9). The writing of collective narratives also afforded the participants some anonymity, as they used pseudonyms and switched voiced while maintaining the integrity and authenticity of their stories.

Constructing the Inquiry - Constructing the Quilt

Why did I want to construct a quilt as part of the inquiry? One of my goals was to expand my notion of what research is, to explore what it can be through arts-based

inquiry. I also wanted to open up my art practice and explore its educational possibilities, rather than to create a finished product, a closed piece, that is meant for viewing by others. But primarily, I wanted to provide a site for reflection on our design process so that we could learn about and improve the way that we worked as a group, and (possibly) as individuals. How would I attempt to accomplish this?

> It seems clear that art oriented toward dynamic participation rather than toward passive, anonymous spectatorship will have to deal with living contexts; and that once an awareness of the ground, or setting, is actively cultivated, the audience is no longer separate. Then meaning is no longer in the observer, nor in the observed, but in the relationship between the two. Interaction is the key that moves beyond the aesthetic mode: letting the audience intersect with, and even form part of, the process, recognizing that when observer and observed merge, the vision of static autonomy is undermined. (Gablik, 1991, p.151)

Gablik outlines a crucial issue by stating that works can transcend their aesthetic purposes. Did I really want to create a hermetic image in fabric? I could construct a static object to be looked at and contemplated, where the viewer's role is to extract the meaning contained within it. This would suggest that the work is complete and close-ended, and that I am solely responsible for creating its meaning. However, this was not my intention. I thought about the kinds of things that I have been striving for in my artwork and research. What am I trying to study, what is the point? What can I bring to the construction of the quilt so that it can truly become a site for reflection and telling and retelling stories?

I questioned my position as artist/creator, as I have questioned the privileging of artists before me. Do I believe that I possess a different view of the world, a privileged eye/I because of my artistic training? No. But, I do believe that I have a set of skills and a way of making sense artistically that allows me to construct meaning in ways that are different than those usually employed in Educational Technology research.

Participant Selection

According to Lawrence-Lightfoot and Hoffman Davis (1997) there is some debate amongst qualitative researchers about the "optimal depth, quality, and intensity of research relationships. One the one hand, traditionalists believe that the relationship between the researcher and researched should be "clear, distant and formal." (Lawrence-Lightfoot & Hoffman Davis, 1997, p.138) On the other end of the continuum, researchers claim that such relationships are "complex, fluid, and reciprocal" and "that the fluid boundaries that mark distance and intimacy" should be negotiated by the researcher and participants. (Lawrence-Lightfoot & Hoffman Davis, 1997, p.138-139) With respect to this inquiry, I situate myself with the latter group.

The participants in this study were four MA students in the Education Department, three colleagues and myself, who had worked on a variety of class projects together and as research assistants on teacher professional development projects, together and separately. We were more than just co-workers, we were friends and colleagues. But how would I define our relationships in terms of this inquiry?

Catherine Bateson (1989) in *Composing a Life* refers to the inadequacy of traditional terms to define such relationships:

> This is a multiple collaboration built on both difference and similarity, but I still lack an appropriate term for it. Before and beyond this project, we are clearly friends, but the word is too rich and broad to focus the special commonality of a single project. Sometimes I refer to Joan, Ellen, Johnetta, and Alice as "the women I have been working with"-as collaborators-and yet this belies the playfulness of many of our conversations. The words used by social scientist for those they involve in their research feel wrong to me, even though as an anthropologist I believe that the people we call "informants" are our truest colleagues. These women are not "interviewees," not "subjects" in an experiment, not "respondents" to a questionnaire. There is symmetry in our mutual recognition but there is asymmetry in that I am the one who goes off and

> weaves our separate skeins of memory into a single fabric. But they weave me into their different projects, too.
>
> The usual words fit even less well when I apply them to myself as the fifth member of the group, to me interviewing myself, asymmetry within symmetry. Women have been particularly interested in the notion of reflexivity, of looking inward as well as outward. Perhaps this is because we are not caught in the idea that every inspection involves an inspector and an inspectee, one inevitably dominant, the other vulnerable.
>
> ... I feel a need for a term that would assert both collegiality and the fact that the process is made possible by our differences... The gap in the language parallels a gap in the culture. We are rich in words that describe symmetrical relationships, from buddy to rival to colleague. We are also rich in words that describe strongly asymmetrical relationships, many of which imply hierarchy and have curious undertones of exploitation or dominance. But none of the words meet my needs." (Bateson, 1989, p.101-102, in McCotter, 2001)

In the end, I chose the word "participants." While it is not ideal, it seemed to be the most adequate term available at the time.

In addition to the issue of describing the research relationship, I was required to justify the reasons why I chose not to include all or a sampling of representatives from the participants in the *qesn.connection* project. At the time that I was writing my proposal, I suppose that I was not able to adequately articulate the reasons why I wanted to frame the inquiry within the boundaries of what became known as the *core design team*. There were other graduate students who worked on the project, as well as faculty members and client representatives. There roles were crucial to the project and I did not intend to diminish the importance of their contribution to the design process. However, while the four of us worked together on the *qesn.connection* project, our interactions and collaboration extended far beyond the requirements of our design and development tasks. After reading the work of Wenger (1998) and Wenger, McDermott and Snyder's (2001)

work, I would now characterize this core design team as an example of a community of practice. What is a community of practice? According to Wenger,

> Communities of practice are groups of people who share a concern, a set of problems, or a passion about a topic, and who deepen their knowledge and expertise in this area by interacting on an ongoing basis... As they spend time together, they typically share information, insight, and advice. They help each other solve problems. They discuss their situations, their aspirations, and their needs. They ponder common issues, explore ideas, and act as sounding boards. They may create tools, standards, generic designs, manuals, and other documents – or they may simply develop a tacit understanding that they share. However they accumulate knowledge, they become informally bound by the value that they find in learning together. This value is not merely instrumental for their work. It also accrues in the personal satisfaction of knowing colleagues who understand each other's perspectives and of belonging to an interesting group of people. Over time, they develop a unique perspective on their topic as well as a body of common knowledge, practices and approaches. They also develop personal relationships and established ways of interacting. They may even develop a common sense of identity. They become a community of practice. (Wenger, McDermott & Snyder, 2002, p.4-5)

I believe that it was our process of becoming a community of practice that attracted my attention. While we functioned in a setting with many other people, the four of us, over time and through our numerous interactions, developed relationships and a collaborative energy that stood apart from the larger group. I felt that such relationships were rare and wanted to gain a better understanding of how we functioned as a group in order to further improve my/our design practice. Because I was interested in collaborative design processes and inquiry that would feed back into our work as instructional designers rather than the general evaluation of the *qesn.connection* project, it was appropriate to reflect with those who would be concerned with matters pertaining directly to instructional design practice. As Heron (1996) stated " when practical knowledge (knowing *how...)* is the primary intended outcome of a cooperative inquiry, the inquiry

is at a deeper level than when propositional knowledge (knowing *that*, making statements about the nature of a chosen domain) is the primary outcome. (p.48) Expanding the boundaries of the group would probably yield some interesting findings, but they would likely diverge from the practice of instructional design.

Timeframe of the Inquiry

As stated earlier, two other theses related to the *qesn.connection* project detailed descriptions of the professional development process that was designed by the team and shed light on the pilot phase of the process on-line (Caron, 1999) and in the school setting (Bielec, 2002). Along with the other participants, it was decided that the timeframe to be studied in the inquiry would be from May to November 1998 – the period covering the initial design phase of the *qesn.connection* project which led up to the implementation in pilot schools.

Methods of Data Collection and Analysis

> Multimethod investigations not only serve to illuminate a single topic, but may stimulate interdisciplinary inquiry. By selecting research techniques that were object-, maker-, and process-oriented and tied to larger traditions of thought found in various academic disciplines, I not only examined content, but compared the type and quality of data received. Disparate data juxtaposition can be unwieldy, ambiguous, and invite conflict, yet may also provide valuable insights. (Hoffman, 1996, p159)

While the framework for this inquiry had not been established during our design process, we were aware that a number of theses would emerge from the *qesn.connection* project. Because of this, we audiotaped several of our design team meetings and I took care to compile documents and artifacts that were relevant to our design process.

Sources of data for this inquiry included:

- documents of the design process such as written texts, working documents, brainstorming artifacts
- audio tapes of our design team meetings
- digital slide shows used in presentations and papers
- use of my personal notes and my agenda for the year 1998
- the team's First Class work environment housed on the Education Department's server
- photographs of our workspace

In addition, the participants (including myself) conducted reflection sessions that were audiotaped and served as a framework for the construction of the quilt. The quilt that I created serves as a multi-vocal visual narrative that represents important events, ideas and themes that were identified by the team and that emerged from my analysis of the data. The quilt offers a site for these co-constructed narratives to be told. There are no right or wrong answers, there are multiple truths that were gathered and shared. I see the quilt as a reflexive intertextual space for conversation, interpretation, and critique of our design practices.

Phases in the Inquiry Process

> Qualitative research design has an elastic quality, much like the elasticity of the dancer's spine. Just a dance mirrors and adapts to life, qualitative design is adapted, changed and redesigned as the study proceeds, because of the social realities of doing research among and with the living. (Janesick, 1998, p.53)

With this in mind, I constructed a flexible research plan anticipating that it may require minor or major alterations along the way. The phases of the inquiry, which will be described in detail, were the following:

- Phase I - Negotiation of the Research Process
- Phase II - Reflection Sessions
- Phase III - Production and Analysis Process
- Phase IV - Presentation and Interpretation
- Phase V - Reflection on the Research Process

To some degree each of the phases, with the exception of the negotiation phase, were interpretive and led to further examination of data and reflection.

Phase I – Negotiation of the Research Process

As this project was meant to facilitate reflection on our collaborative design process, the participating graduate students were involved in negotiating the boundaries of the research. In that this inquiry was concerned with our team process, I felt that including only my own views and my perceptions of the others' views would compromise the usefulness and validity of the project. An initial meeting was held with the participants to negotiate aspects of the research process. This included:

- issues surrounding informed consent, not as a required procedure, but as an ongoing process in need of review and revision in lieu of the emergent nature of the inquiry
- development of a schedule and timeline for group sessions

Phase II - Reflection Sessions

The reflection sessions served to evoke the issues that were deemed to be relevant for the group. Sessions were audio taped and transcribed in order to allow for continuous dialogue (without long pauses for note taking) and so that I/we could refer to the content if needed.

My intention was also to use the group sessions and the context of the quilt as a safe space for reflection that was once-removed from our work context. I believed that if we were to sit around a table at the University with the purpose of discussing our design process, we would probably repeat the same types of patterns that we engaged in while working collaboratively. For instance, if we were to use First Class conferencing software as a tool for reflection, we could easily fall into our regular mode of use without being able to be reflective or critical about it because it felt 'natural' for us to work in this way. As Ries states:

> Phrasing the problem in terms of a different media inserts some intellectual and emotional distance between problem and designer. The act of rephrasing the question forces the designer to critically examine and define the problem... It is beneficial to examine the problem in as many possible and unexpected perspectives as possible. Switching media may remove any preconceived notions of possible solutions and offer a new means of understanding and insight. (Ries, 1996, p.146)

By creating a playful context, by taking on pseudonyms, and lifting away certain responsibilities and threats, I felt that we might be able to come to a clearer understanding of how we functioned as a group.

> Post-structuralism has a more 'playful' approach, but this attitude has nothing childish or frivolous about it. When dealing with complex phenomena, no single method will yield the whole truth. Approaching a complex system playfully allows for different avenues of advance, different viewpoints, and perhaps, a better understanding of its characteristics. (Cilliers, 1998, p.23)

The informal reflection sessions served to evoke the questions and issues that were deemed to be relevant for the group. We met on two occasions at different participants' homes to share a meal and with the specific purpose of talking about our experiences while working on the design project. At the first session, the participants read

and signed the consent forms and we discussed the use of pseudonyms before we began the our reflection. As stated previously, the sessions were audio taped. The first meeting lasted for four hours and the second lasted about 90 minutes.

Phase III – Production and Analysis Process

After listening to the audiotapes and transcribing portions of the dialogue, I developed a framework that was to guide me in the design of the components that were to be included in the quilt. Each of the four participants had a different way of framing our design process that will be discussed later in the paper. This phase included the design and production of the components to be included in the quilt.

Phase IV – Presentation and Interpretation

When the production process was completed, I originally planned to hold a session with the participants so that we could use the quilt as a vehicle for further reflection. The reflection session(s) were to be documented (through audiotape, videotape, and digital images) and included in the final thesis. Due to the extended period of time that has passed since the original instructional design work took place, I began to question the value of this undertaking. It seemed to have lost its original meaning and purpose. After so many years, this would simply be an exercise rather than an authentic means of reflection for the participants. With this in mind, I have been forced to reflect on and revise this strategy. As I worked on the thesis, I was directed towards an exploration of my own design process, thus, this has become a central focus of the thesis project. So, this section has evolved into my own personal reflexive space. I have included reflections on the unanticipated challenges I faced while attempting to complete

the research process, which I believe were due in part to the complex nature of the role of the researcher in arts-based inquiry.

Phase V – Reflecting on the Research Process

In that this is a scholarly work rather than artistic production for its own sake, the quilt, the artifact produced through the research process, is framed by a written document that provides both an introduction and an epilogue to the research. The written portion of my thesis contextualizes my research within the framework of arts-based inquiry and provides a review of literature that I had touched upon in my proposal. This document provides a space to discuss issues arising out of the research process and method. However, the written text does not attempt to translate or duplicate the meanings expressed through the quilt, rather it provides added scholarly value to overall research process.

Chapter 5 - Presentation and Interpretation of the Inquiry Data

The quilt as meaning-making tool

What did I want to accomplish in constructing the quilt? Firstly, I wanted to create an open-ended work that can act as a tool to facilitate communication and reflection. In other words, the quilt would serve as the site for our reflection. Initially, I hoped to achieve this through the active involvement of the participants in meaning-making, not only after the quilt was produced but throughout the process. This would include the participants' involvement in decisions about the purpose of the tool and of its content, and in its design. But time constraints and the participants' commitment to their own thesis projects made me feel that I would be requiring too much of their time in order to complete what was essentially my own thesis work. I took on the task of physically constructing the 'landscape' or ground onto which I/we could construct new visual/textual compositions and interpret their meanings.

Secondly, in that the quilt can function as a metaphor for our design process, a static, unchanging, object would not be a adequate representation of the complex nature of our interactions. Therefore, it occurred to me that the quilt should not consist of a traditional "fixed" design, but rather of moveable components that can be placed and reordered at will. In addition, the inclusion of fasteners such as Velcro and of moveable components in the construction is meant to undermine closure in the work and to encourage active manipulation. The "quilt" that I present is a patchwork of pieces that does not create one picture, but ever-changing possibilities. Thus, metaphorically, it reflects our design process more adequately, and practically, it provides the viewers with

more flexibility and allows for continuous modifications and transformations of the quilt as new understandings and meanings emerge.

The components are subject to multiple interpretations and continuous reinterpretations. In Cope and Kalanatzis' (2000) view, meaning-making entails design in both its senses:

> 'Design' in the sense of morphology, that is structure and function, such as the design that 'is' a motor car or a skeleton, for instance; and design in the sense of an active, willed, human process in which we make and remake conditions of our existence, that is, what 'designers' do. Design, therefore, refers to both structure and agency.
> Design is a process in which the individual and culture are inseparable. The representational resources available to an individual are the stuff of culture..." (p.203)

Meaning is not stable and regular, but rather it is continuously transformed and changed through voice – "the expression of personhood" and hybridity – the "many layers of identity, experience and discourses drawing from *available designs* – in a variety of linguistic, gestural, visual, spatial, auditory or *multimodal* modes. (p.204-205) According to Cope & Kalanatzis (2000), "multimodal meaning is no more than the other modes of meaning working together and much more as well...meanings come to us together: gesture with sight, with language, in audio form , in space." (p.211) Multimodal meaning-making can occur through "transcoding and transduction" – integrating and shifting emphasis from one mode to another. (Cope & Kalanatzis, 2000, p.211)

The components of the quilt can be used to create "new designs of meaning". (Cope & Kalanatzis, 2000, p.211) This can be done in numerous ways. For example, one piece of the quilt can be as the subject of a discussion amongst participants. Several pieces can be placed on the quilt shell, to show changes over time, to emphasize

commonalties, conflicts or inconsistencies. This reordering could be photographed with a digital camera or videotaped, creating a new multimodal representation. In this sense, I have created a set of multimodal "meaning-making resources" with which meanings can be designed. Certainly, there are many more possible uses of the quilt as a reflection tool. How it actually works in action remains to be seen and documented.

Inductive Analysis of Data

> Like the artist, the qualitative researcher creates a descriptive and interpretive representation of the phenomenon being studied by amassing and analyzing data. Artists solve problems through a dialectical process of engagement, listening, openmindedness, and decision-making along the way. They often start with a vision in mind but, though the process of creation, stumble accidentally upon solutions not previously considered that change the final work. This creative process entails inductive reasoning, divergent thinking, connections, associations, and synthesis of knowledge. (Watrin, 1999, p.95)

As mentioned earlier, after I listened to the audio tapes and transcribed portions of the dialogue, I allowed the words of the participants to guide me in the design of the components that were to be included in the quilt. Each of the four participants had a different way of framing our design process that is described below:

Sapphire: Phases

If I was to look at the process, from my understanding of it I could see it in different phases. So that first phase, one of the phases would be just the initial introduction of what this is and what we were supposed to do phase, where we were on the same level, the principal investigator, the project manager, the client, everybody (Scarlett: literally no Scarlett)- kind of all in the dark. And then we started doing lit reviews, that's when you came in. That's when I kind of disappeared from the scene, I did a little bit and then left. And when I came back in and I saw that you guys had made so many leaps and bounds, progress. That's when things started to speed up, and that's when things started to coming together more. And then September, when it was just the doing and then the implementation.

Violet: Milestones

For me, I see it as milestones that stand out – the things that changed us. The Lit Review stuff. I remember slogging through stuff that didn't speak to me at all until there were certain pivotal articles that we found and shared. Then there was the Needs Assessment where we drove to all these different schools and talked to different teachers and that was very eye opening because it led to...we were used to working with urban schools or suburban schools, just the two rural schools. We didn't know if that was an accurate picture or not of what happened at a rural school. We saw at least three schools that were quite remote. The other milestone for me was writing the AERA proposal. It was the first time we were forced to articulate things that we were just thinking about. We'd been writing pieces of articles and quotes from articles and weaving them together somehow. The actual writing of that was the first time we co-wrote something for real and all the issues that arose. Then there was the splitting into small subteams, working on different pieces. But, I don't see that as a milestone, it's just a thing that happened.

Veronica: Spaces

I've been thinking about it not in terms of milestones but spaces. And that's to me where the boundaries between personal and professional and all that stuff blends together. There was the home space, the university space, the virtual space that we used to communicate together, the school space, where that experiential stuff came from...

Scarlett: Membranes

Well, there's also something which I would call membranes. 'Cause we've got this process going on. We've got, just like Sapphire mentioned, coming in a little later and finding that, for example, from the literature into the needs assessment there's already been development. She was behind so had to find some way to start to swim and catch up. And so I think that the way that I see it in my head is that there are membranes. You develop a certain thing and then in comes Sapphire and she has to pass through this semi-permeable membrane. She realizes that she's in a space where, "OK this isn't the same space as when we first started, I have to catch up now."

These four visions served as the inspiration for the design and development of the quilt. In the Fall of 1999, I began constructing the quilt shell – the ground on which the other pieces are placed. I also began to make the moveable forms based on the key features (sections of text, quotes, images, symbols etc.) identified during the reflection phase of the inquiry. As I worked on the quilt, I frequently listened to the audio tapings of the sessions and of our meetings. I also returned to our documents and artifacts as well

as our First Class conference, seeking new meanings and understandings, new windows into the experience. I continued to collect and capture pieces of our texts, imagery and documents. I gathered quotes from articles and books that were relevant to our process and added then to the collection of patches. I worked on the several parts of the quilt simultaneously, at irregular intervals. These are some thoughts from quilting journal on July 25th, 2000:

> ...It's just difficult to work on something in small bits of time. It's probably the way that many people have worked on projects. Quilting knitting, embroidery - stealing moments out of their busy lives to indulge themselves in this kind of work. For others it was "busywork" - keeping their minds away from "bad thoughts" and "evil deeds." Probably had servants to do all the dirty stuff.

The following sections contain a discussion of the some of the components of the quilt that I constructed, and finally an example of a traditional text that incorporates visual elements based on the team's use of computer mediated communication.

At this point, you may want to either manipulate the quilt pieces that I have created if they are close at hand, or refer to the digital reproductions of the components that are included in the accompanying CD-ROM.

Documenting the Quilt Making Process

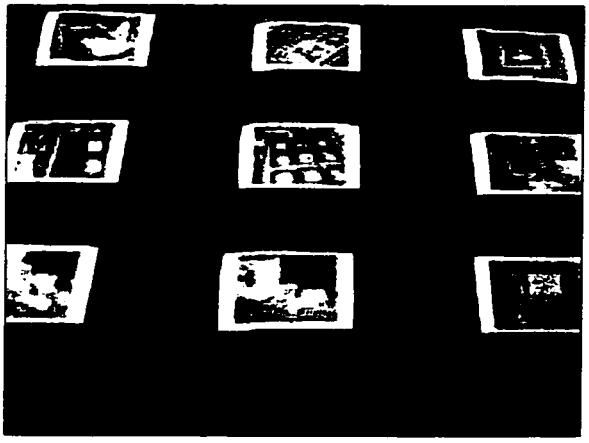


Figure 1 Close-up of *Process Quilt*

At various times throughout the development of the quilt, I documented my process and progress. This documentation has taken the form of journal entries, digital photographs, notes and sketches. In Spring 2000, I wanted to create a visual way of presenting my work in progress at AERA in New Orleans. Images that had been taken with a digital camera and downloaded onto my computer were printed onto iron-on transfers. The transfers were used to construct a small quilt that serves as a record of my research process, my sources of data, the quilt making process, as well as examples of my previous artwork. I believe that this provides viewers with a window into the making of the quilt.

Conversation pieces, Productions pieces, Icons and Quotations

The relationship between the work of art and its audience is moving towards a "convergence of the creator with the spectator" where the "audience moves from being actively involved on a interpretive level to actively intervening in the representation." (Humphries, 1997, in Cope and Kalantzis 2000, p.226). In this spirit, I created several moveable quilt pieces from a variety of sources that can be used as resources for meaning-making by the viewer. The pieces were formatted using digital imaging software and then printed on transfer paper. I then ironed them onto fabric and sewed them onto poly-cotton backing. They have Velcro attached to them so that they can be placed on the quilt shell. They can be used interchangeably and mixed with the components described in the next sections.

I have categorized them in the following way:

- ***Conversation pieces*** – excerpts of text from our reflection sessions, from documents or from written communication

Figure 2 Sample of *conversation pieces*

- ***Production pieces*** – samples of our slideshow presentations, written documents that pertain to the design and development of *qesn.connection.* I resized them using imaging software and printed the onto transfer paper.

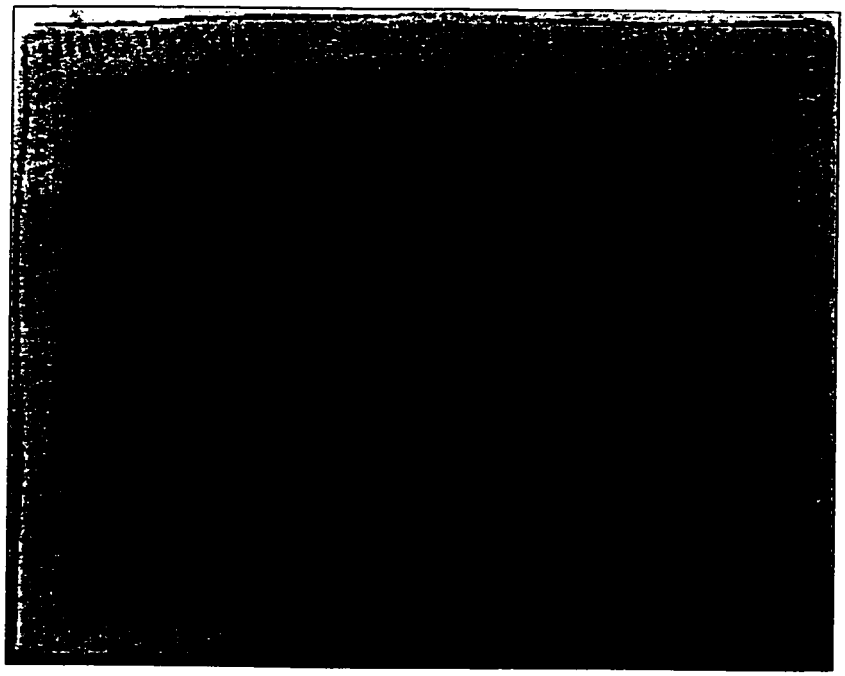


Figure 3 Sample of *production pieces*

- Icons – symbols and representations of our social interactions collected during the design and development process and captured in photographs of our workspaces.

- Quotations – excerpts from the literature that I transposed onto transfer paper and printed onto fabric.

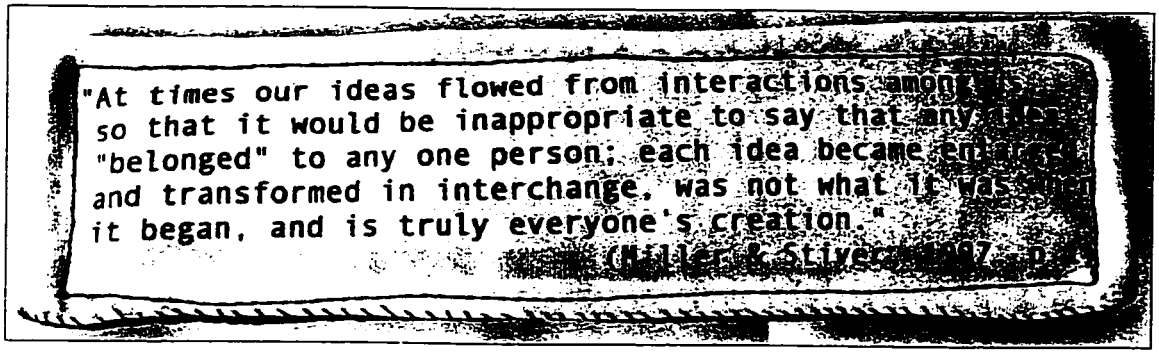


Figure 4 Sample of *quotation pieces*

Placemat Series

The placemat series was inspired by Sapphire's vision of the design process as phases. I wanted to find a way to show the different kinds of tasks that we were performing as a team and the interactions we had with other groups.

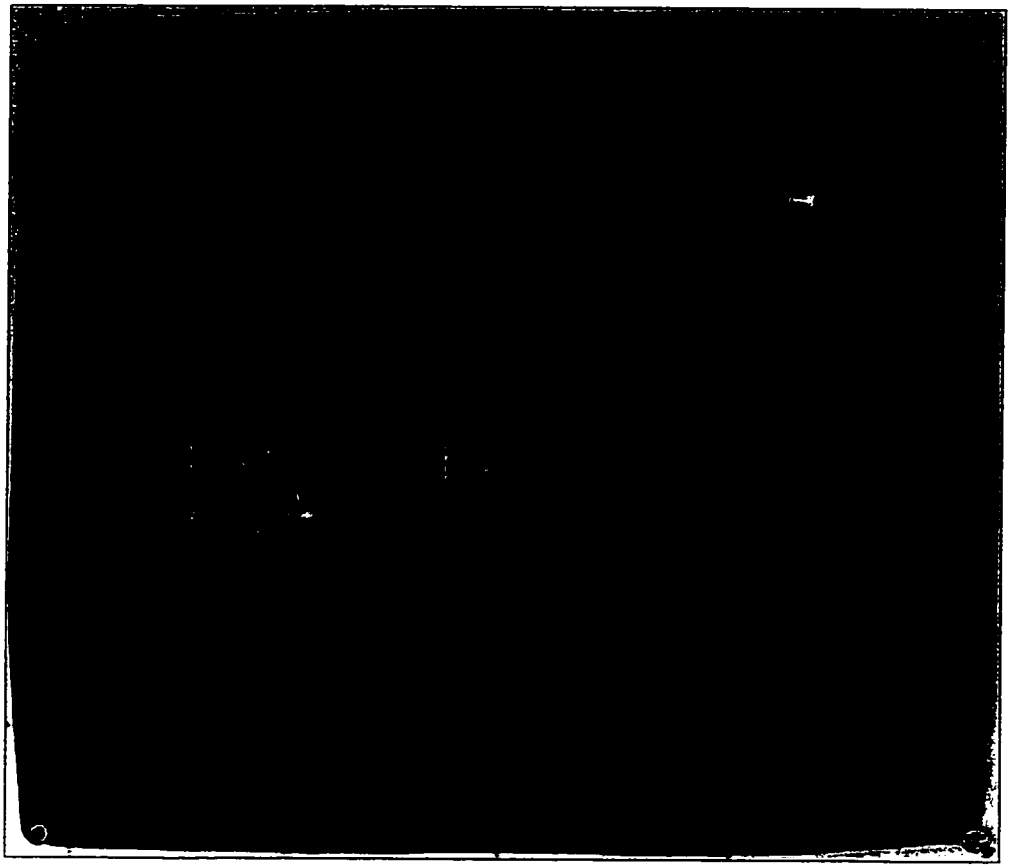


Figure 5 Digital photograph of *June* from *Placemat* series (*13 3/4" x 15 1/4" - cotton and poly-cotton blend and fabric paint*)

Here is an excerpt from my quilting journal on August 4, 1999.

> ...The timeline I would like to do as a calendar/placemat for every month. The cotton quilting would work well for that and small pieces marked for each day. I like the calendar that's in the art quilt book (Susan Shie - 1989 "The Calendar Fetish" 72"x60"x3", 125 moveable pieces) but it's too elaborate and it's for a year not a month.

The resulting pieces contain a transposition of data from my personal agenda for 1998 as well as the events that were documented in our First Class conference for the months depicted on the calendar. In this way, it is serves as a description of the day to day activities and significant events in the design process of the *qesn.connection* project. While I am satisfied with the outcome, the work proved to be extremely tedious and time-consuming.

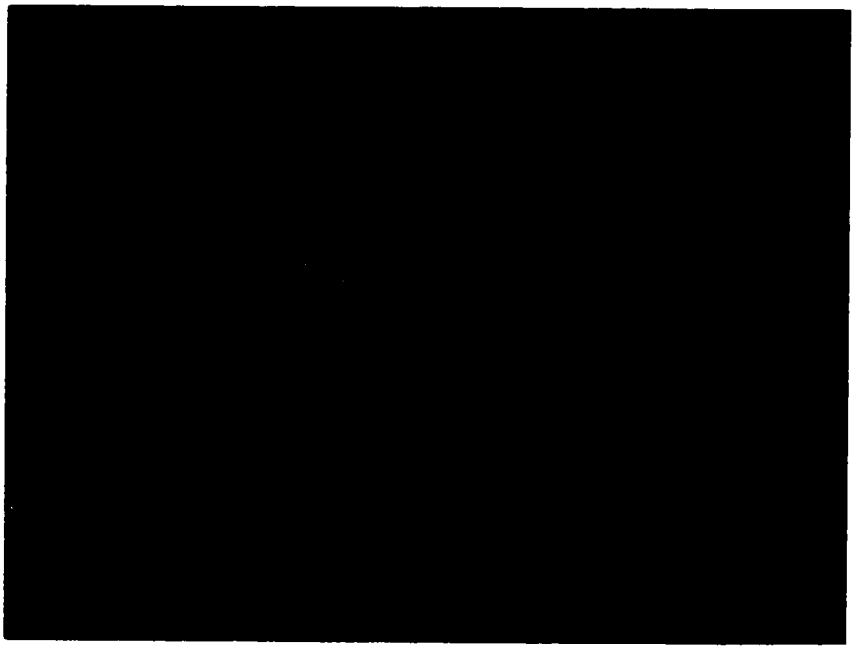


Figure 6 Detail photograph of *June* from *Placemat series*

Hands

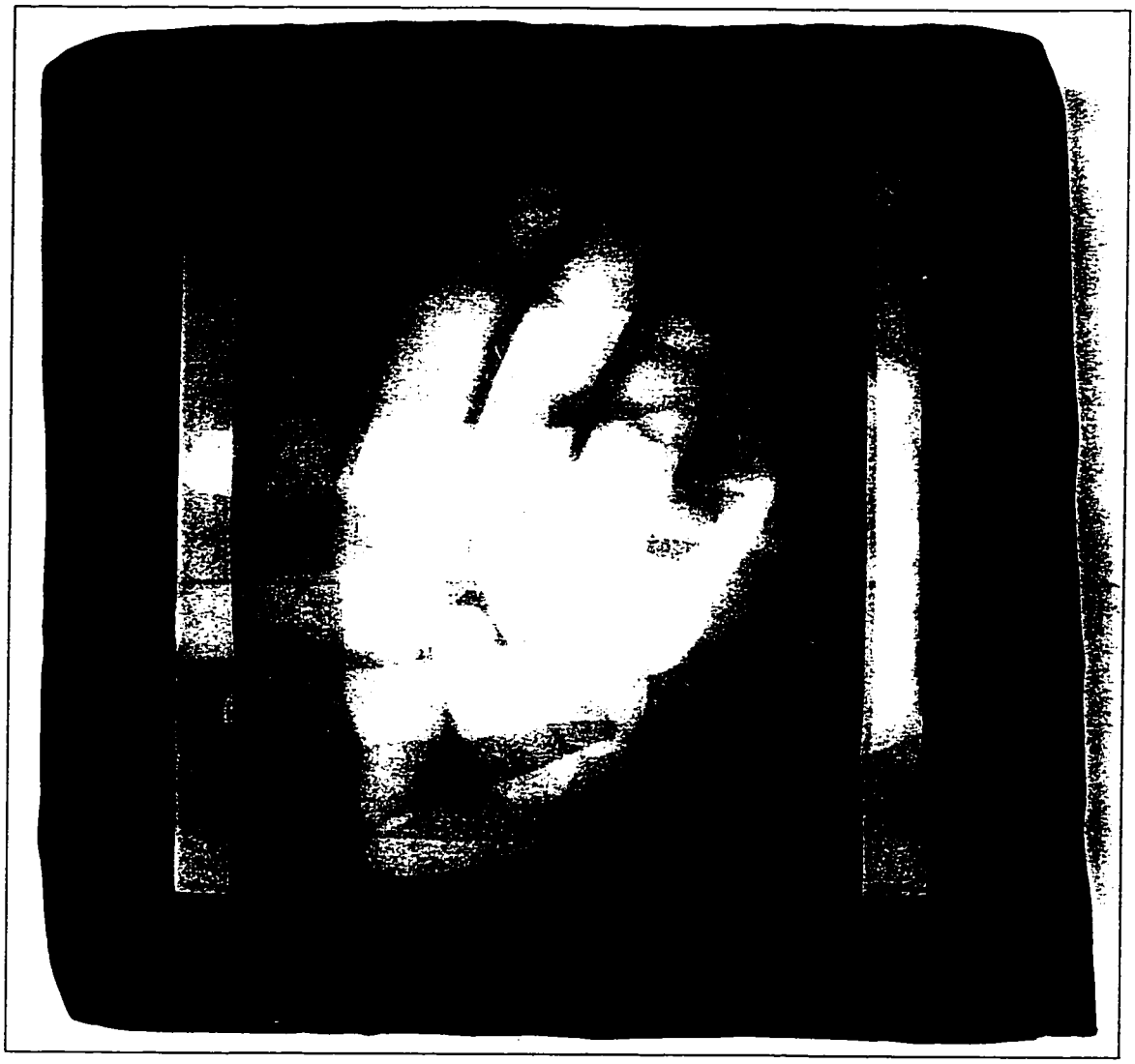


Figure 7 Digital photograph of block from Hands series (8" x 8", cotton and polycotton blend, transferred images)

> *Well, there's also something which I would call membranes. 'Cause we've got this process going on. We've got, just like Sapphire mentioned, coming in a little later and finding that, for example, from the literature into the needs assessment there's already been development. She was behind so had to find some way to start to swim and catch up. And so I think that the way that I see it in my head is that there are membranes. You develop a certain thing and then in comes Sapphire and she has to pass through this semi-permeable membrane. She realizes that she's in a space where, "OK this isn't the same space as when we first started, I have to catch up now."* (Scarlett, July 1999, reflection session)

The *Hands* series of blocks were based on Scarlett's vision of the process as membranes. The following is a sampling of my initial thoughts on designing the pieces on August 4th, 1999, not long after the reflection session was held:

> The membranes, I'm not
> sure yet although I'm thinking of
> clear plastics, sheer fabrics, Richard's
> biology text, also the intersubjectivity
> diagrams in "In Over Our Heads."
> cells multiplying/splitting off into different groups,

I arrived at the final design when I listened to and transcribed the tapes of the session.

> *In terms of my own personal process, I think that this was the first time that I had worked clearly in a team...But I felt that I was able to be whatever productive I was to the best that I could be in the team. You know what I mean. I think for me, it was my experience of that...I felt that if before I didn't believe in distributed cognition, now I do. I do believe, I do see that it works. I don't think that it's easy and I don't think that anybody and if anything, I hope that your thesis does is demystify in the design process is the distributed cognition aspects, because I don't think that anybody realizes how spiritually and socially challenging it is to put your mind along side other minds and work on something from your own context, your own history, your own perspective, your own prior knowledge, and then try to do a joint endeavor. And how that abrasion can make something so much richer.* (Scarlett, July 1999, reflection session)

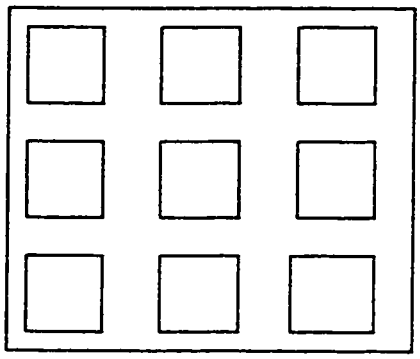
Scarlett's words, among other sections of the discussions led me to experiment with layered images of my hand.

Excerpt from journal Feb.19, 2000:

> Have been experimenting with
> transfer paper, Photoshop and the colour
> printer.
>
> I'm excited about the hands

that I scanned.

I want to print out 9 6" blocks on a black border.



The hands represent
collaborative work
different layers, different
directions
merging into one and
dissipating again...

Excerpt from April 8, 2000:

The nine blocks were finished April 4th.

Today I'm going to organize the fasteners and sew them onto the pieces and backing.

The blocks were made by scanning my hand 4
times. These scans were
arranged using Photoshop
then printed onto transfer paper.

I ironed the transfers
onto 6 1/2 blocks.

A 1" border was added to
each block and I then
used twill tape to bind

them. They are about the
size of square pot holders.
They attach to the
backing of the quilt
with Velcro circles.

Aesthetically, I think that this piece is most representative of the kind of work that I might have created in the context of my regular art practice. It functions as a whole but each block can be seen as a distinct work. The shape of the blocks makes them accessible to the viewer, but they are layered with meaning. The series is improvisational and playful, evoking a sense of the domestic, yet speaks to the fragility of self and identity.

The Double Wedding Quilt

At some point a couple of years ago, Professor Gary Boyd handed me a paper that had been written by Gunawardena, Lowe and Anderson (1997) as we crossed paths in the hallway of the Education Department. The authors used a log cabin quilt block to create a visual representation of their "constructivist model of CMC interaction." (p. 410). I read the paper, set it aside and forgot about it. Recently, as I rummaged through my eclectic collection of articles, I stumbled upon it again. I can't be certain, but my first reading of the article may have influenced this section of the quilt, and so, I decided to cite the author's work.

There were a number of relationships in the design process that I wanted to try to represent through the quilt. For instance, Veronica's *spaces* vision of the design process included the home, the university, the school, and the virtual workspace. Coincidentally, most them involved the number four, with a fifth, uniting element. I attempted a variety of solutions and tried to sketch a variety of different ways to create a model in vain. As stated earlier in the paper, my original inquiry questions were framed according to Jonassen's four attributes – context, construction, collaboration and conversation. I struggled for a long time to create an adequate visual representation of Jonassen et al's (1995) constructivist learning environment model.

Another example, there were four of us in the core design team, who were linked through our shared interests. Although the members of the core design team were graduate students, we approached the project not as an exercise, but as serious request from a real client. We took personal responsibility for the project and I believe that in many ways, the client and the project manager entrusted us with this responsibility.

Throughout the process, we were required on the one hand to the client to fulfill the design request and on the other to develop a model that could produce publishable research. In addition, there were thesis projects that were related to various aspects of the project – (this endeavor was one of them). As designers, research assistants, and graduate students, we had to try to maintain a balance between our production interests, research interests, our own academic interests and social interests. Along the way, we became advocates for the teachers for whom we were designing, while at the same time hoping that we would be able to get thesis work accomplished from the process. There were contradictions at all levels. However, this is the context that we had to live with. At some level, we had to accept and be comfortable with complexity. As Veronica put it, we were "married to this thing and dealt with it in our own good or bad or whatever way." (Reflection session, July 1999)

The notion that we were "married" to the project compelled me to look at traditional quilting patterns, because I knew that quilts were often made as wedding gifts or the bride as a part of her *trousseau*. I looked at several patterns but it was the double wedding quilt pattern that seemed to best illustrate the relationships that I wanted to represent. I know that it was a popular pattern in the 1930's, but it was difficult to find historical information on its provenance. I believe that it provides an elegant multi-purpose model, in that it can be used to show a variety of complex relationships and recursion. Below are three digital versions that I created for the purposes of this paper. One depicts Veronica's *spaces*, the second represents the four participants' interactions, and the third visually displays Jonassen et al's (1995) constructivist learning environment model.

I also created a fabric version shown below.

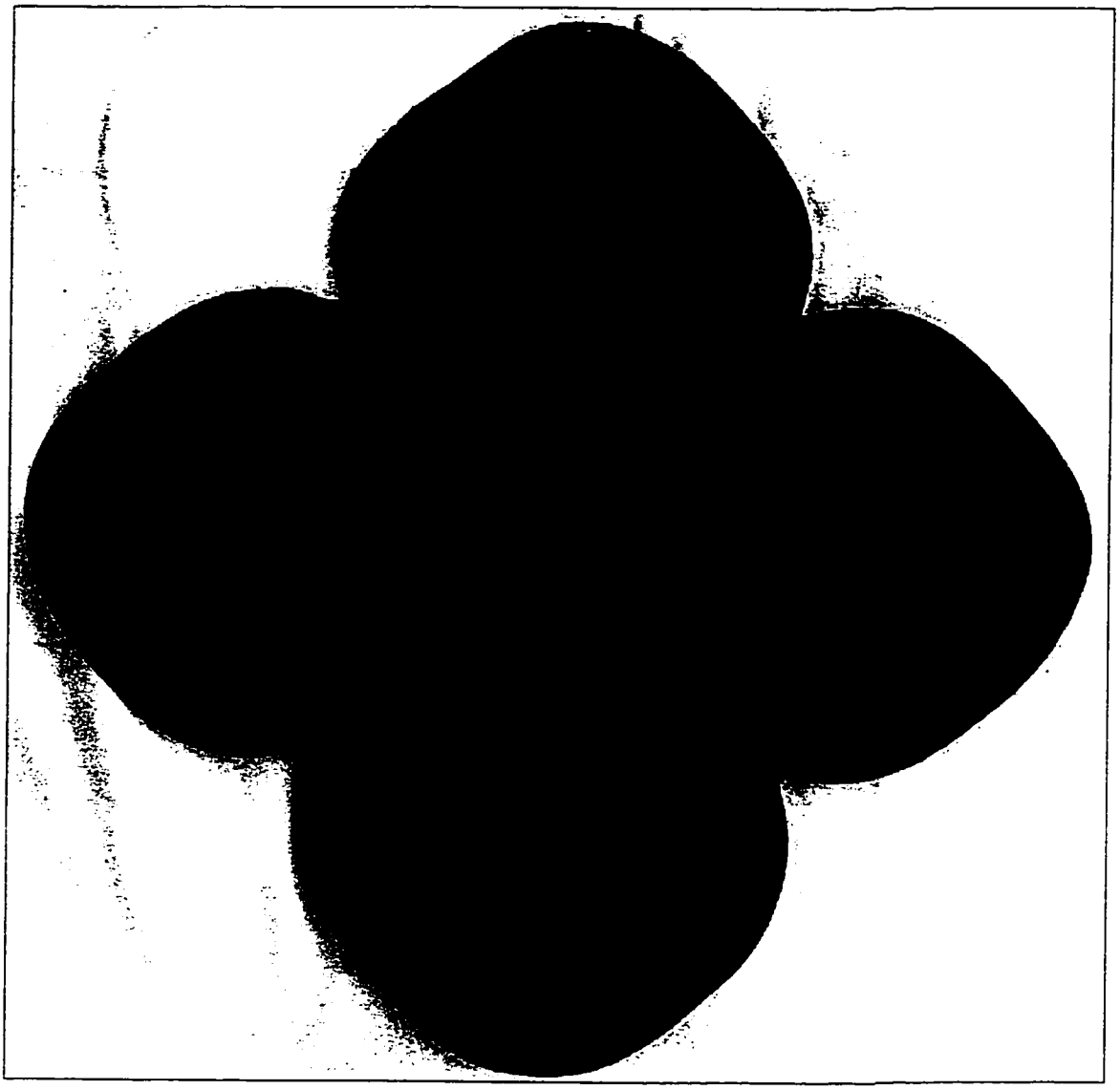


Figure 8 *Double Wedding Quilt* (Cotton and polycotton blend, cotton batting)

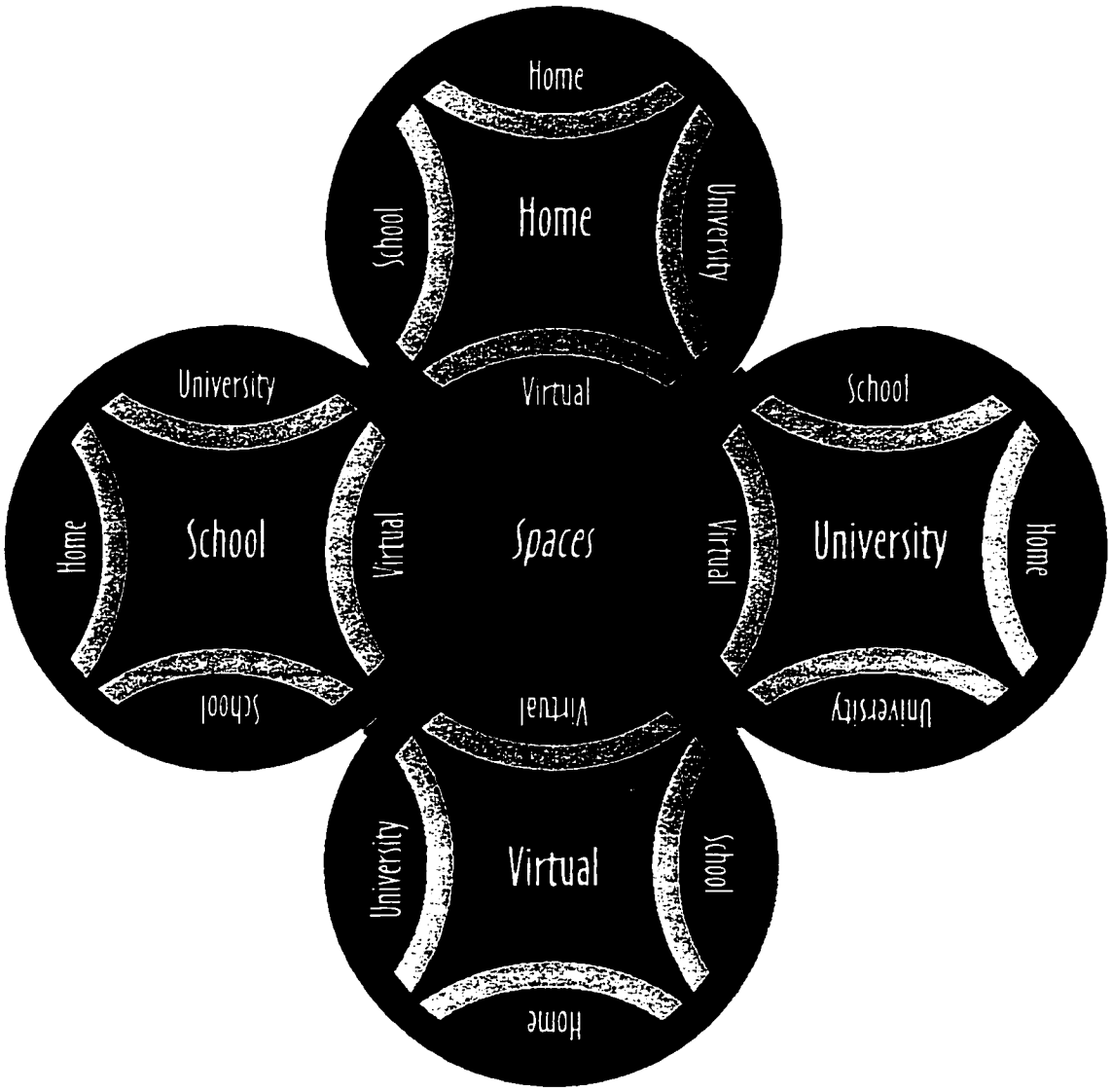


Figure 9 Double Wedding Quilt representing the notion of Spaces

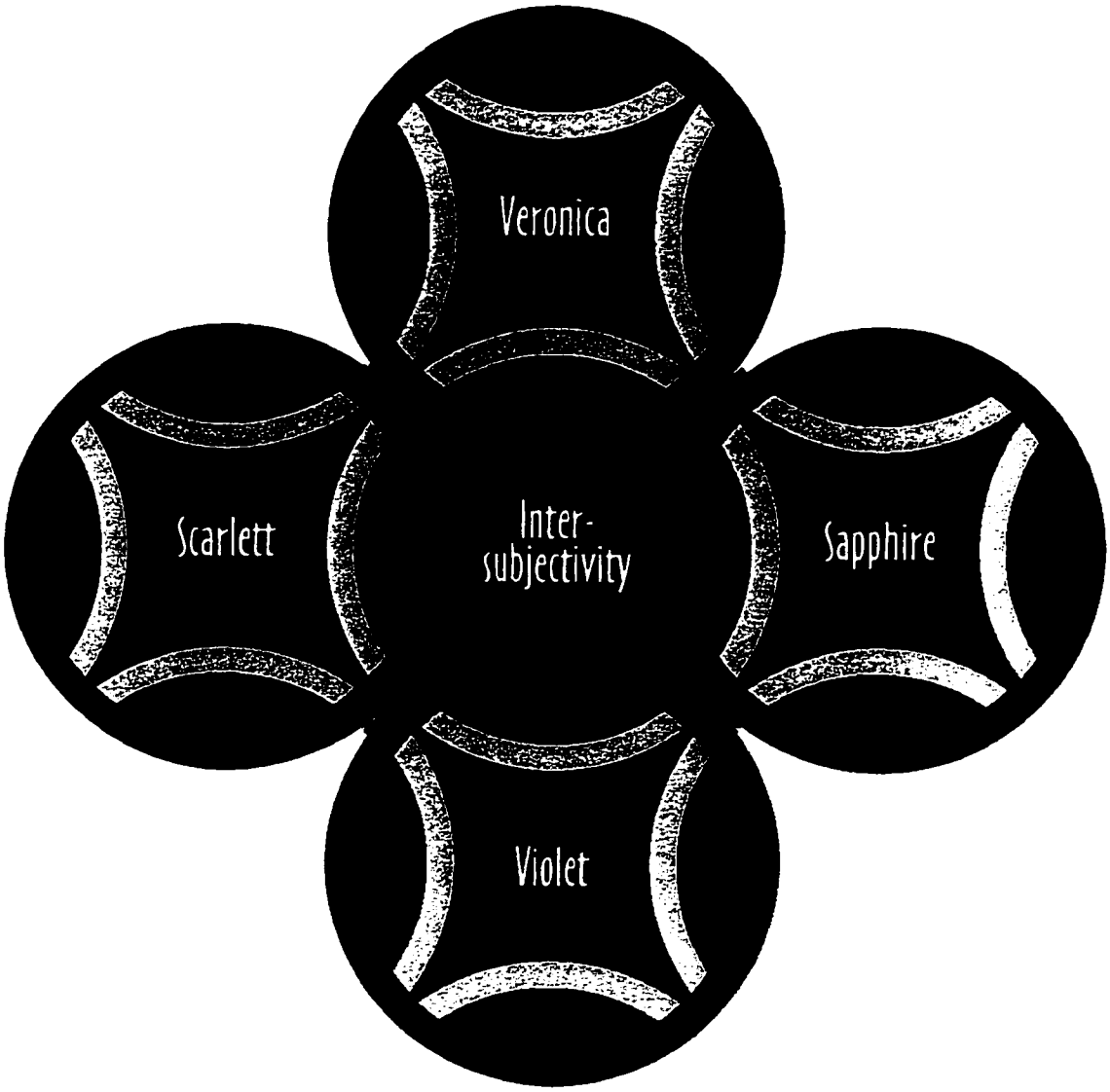


Figure 10 Double Wedding Quilt representing participants' intersubjectivity.

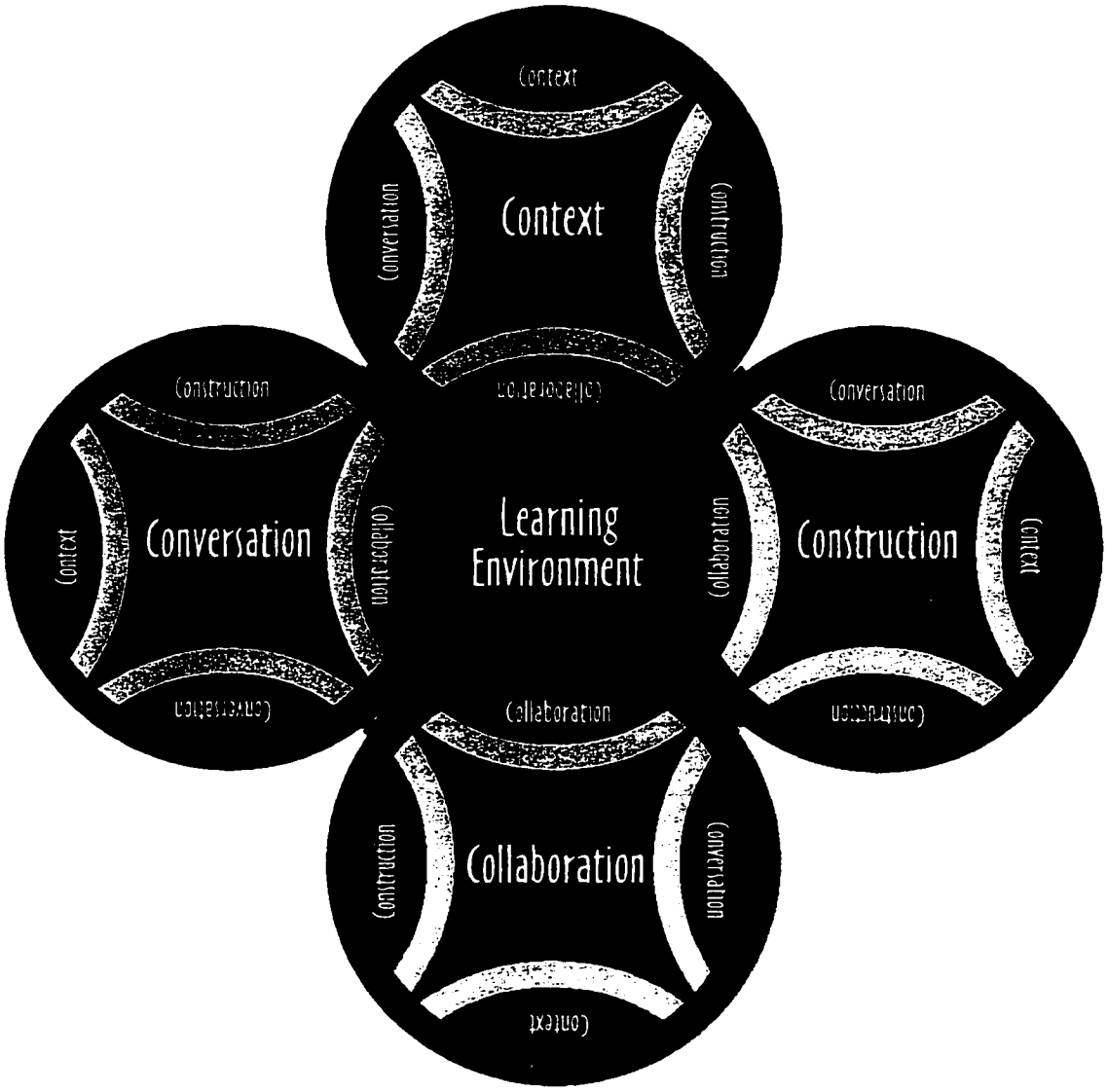


Figure 11 Double Wedding Quilt representing Jonassen et al's (1995) constructivist learning environment model.

We Drank So Much Coffee

> *There was also, for me anyway, this is just personal, a certain sense of adventure and pioneering and of something that is truly wonderful that we were going to be making. And it was really exhilarating. I remember that at the time it was really exciting. We would sit there at coffee shops gerbilly as all hell, not just Scarlett, but everybody gerbilly, drinking all kinds of coffee and having these...we were going to change the world. Not literally, but we were going to certainly change a piece of it. And we were aware of that. That was sort of our innocence in a way. And there was that excitement and the fact that we didn't have to think about those other issues. (Violet, reflection session audio tape, July 1999)*

Figure 12 Digital photograph of *We Drank So Much Coffee(21"x25"- cotton and poly-cotton blend)*

The piece entitled *We Drank So Much Coffee* was designed and constructed during the Summer months of 2002. It was experimental in that I wanted to try to use a conventional quilting technique and motif to integrate data and text from different sources into a unified piece. I created it with the format of a kitchen wall hanging in mind to represent the blurred boundaries of personal and professional spheres of our lives. The technique used was paper foundation appliqué. In our reflection sessions, Violet referred to our coffee drinking ritual several times. A few years later, a study surfaced suggesting that women tend to "tend and befriend" when under stress rather than adopting to the standard "fight or flight" response. I juxtaposed text portraying our social interactions (our lived experience) as steam emerging from the coffee, with findings from the research study (theoretical knowledge) located on the coffee cup.

An example of a multimodal text

The following serves as an example of a traditional text that incorporates examples of linguistic meaning as written text as well as visual meanings including the arrangement of the text through word-processing, a table and screen captures of our virtual workspace. (Cope & Kalantzis, 2000)

Team's use of Computer-Mediated Communication

As the learning environment representation illustrates (see Figure 11, p.96), it is difficult to separate the context of the learning environment from the knowledge construction that takes place through conversation in a collaborative setting. They are all interrelated focal points of a whole. I am choosing our use of computer mediated communication (CMC) to situate a discussion on our learning environment as it existed before and during the design of the *qesn.connection* project.

I think that the project team and the design team's use of CMC had some influence on the way that we designed professional development initiatives for teachers. Through our own use of CMC, we came to value collaborative virtual spaces for sharing and developing ideas. While it was not a central issue in our reflections sessions, I believe that our use of CMC was central to our practice as emerging researchers and designers. I had the opportunity to reflect on this issue when another member of the core design team and I, along with two faculty members from the CSLP decided to present a paper on our use of CMC in the research context at AERA 2000. And so, I choose to discuss my own use and the team's use of CMC it at some length.

Some Background - My Personal Use of CMC

> Sitting alone at my computer a little after dawn, writing seems a very private thing: my thoughts, my words, the gap between them that I struggle with. But unlike a typewriter, the computer keeps me a part of multiple conversations. A poem from a woman in California, scrolling across the screen, about the inaccessible speech of the body; the machine's curmudgeonly messages, programmed by others, balking at instructions it finds unacceptable – these remind me that I am shaped by other minds. I sit here telling stories about human give and take, repeated encounters sometimes leading to growth, and all the words and concepts I use are old, inherited, part of a way I have been shaped by my meaning. The trees on the slope outside grow invisibly and move gently in the wind, shaping me more than I shape them, each one playing a role in birthing a human consciousness. With a sense of self so permeable, peripheral vision is essential, for all those others present with me now are a source of identity and partners in my survival (Bateson, 1994, p.75).

> *I must admit that late at night I would go online just to see if anyone else (well, not just anyone else, a team member) was online, just to feel a presence. Sometimes we would chat, but mostly, we would send a discreet asynchronous "hello" into the night. I don't remember ever picking up the phone...only the sound of chattering keys and fingers fumbling in the dark as he lay in bed, sleeping.* (draft written for CMC paper, March 2000)

My affinity for CMC was formed throughout my first year as a graduate student when the use of First Class conferencing software was a course requirement. We were graded for structured CMC activities and used the system to communicate informally with peers and professors. In one instance we were to use the conferencing system to compose a response to a discussion question, respond to the postings of our group members and then construct a group response that would be read by the whole class. We all met face to face and then sat next to each other in the computer lab to construct our postings as a group. In another course, we were to give each other feedback on an instructional design project by posting messages to each other on line so that the teaching assistant could keep track of that portion of our grade. In fact, it seemed much more

practical and effective to offer feedback face to face and to annotate paper versions of the materials.

The informal use of the system proved to be more fruitful than the structured activities. What became beneficial was the virtual space provided for contact with fellow students and professors outside the spatial and temporal boundaries of the classroom. We had a place to share drafts of our work in progress, to pose questions without having to wait for days for answers, to share our professional and personal frustrations, and to spread some good cheer. When we worked on group projects, we used the space to post our literature search results and our thoughts. With much nurturing and pruning, our initial musings were transformed into final products. While we did spend much time together face to face, we used the conferencing application as an electronic clipboard and filing system.

When I began to work as a research assistant for the NTIC project, a conference called *Technology for Teachers* had already been set up to help keep RA's and professors informed of progress on various aspects of the project and to provide a group workspace. It was used regularly by team members, of whom many had been using it in their courses. By reading the various postings in the project folders, I was able to get a really good sense of how various aspects of the project had unfolded during the six-month period before I joined the team. I think that this provided me with a much better contextual understanding of the evolution of the project than if I had been only supplied with the technology integration materials that had been developed for teachers by the team. Through this electronic archive, I was able to get a glimpse of the process as well as the product, and I was able to learn from the experiences of fellow team members. I believe

that this in an invaluable part of the learning process for novice researchers. Reading polished, published articles offers very little insight into the process of conducting educational research. Methods courses help students to uncover the limitations of experimental design but this cannot be compared with the experience gained by those doing actual work in the field. Used effectively, CMC can enhance the learning environment and provide opportunities for students to develop their potential as practitioners.

> The online environment provides easy access to a wealth of resources. Being able to reflect on messages that were posted to an online environment over a two-year period, is a luxury. As I pour over old messages for this paper, I am reminded of conversations of the past. I reread conversation threads with interest and wonder if given the same questions today, I would react in the same way. (Caron et al, 2000, AERA paper presentation)

The design team's use of CMC

The *qesn.connection* design team used CMC extensively in many ways for various projects. Messages and files could be routed to different conferences that were created for current projects. Different folders were used depending on the nature of the interaction or content and the intended audience. The following table provides a description of the First Class conferences that were used during the design and development of the project.

Table 3 Fab 6 – The Design Team's Workspace

Name of Conference	**Description of Use**
The Technology for teachers conference	general conference where all members of the larger NTIC team (professors, research assistants, ministry and school board partners) had access
DE Conference	all NTIC members had access but generally only interested parties would enter
Fab6 Conference	the design team's work space, all design team members, the Project Manager, the Project Administrator, the Resource Person and the Administrative Assistant had access
Personal Mailboxes	messages routed directly to an individual or group of individuals' mailboxes

Our *Fab 6* workspace on the conferencing system served as an archive, a notepad, a filing system, a sounding board, and an exchange space. On many occasions, our use of the system was asynchronous. We worked on papers or materials individually and then posted our work so that others could add to or edit the documents. We often used the system to archive discussions that took place in our office by taking notes as we spoke. It also provided a virtual workspace when one or more of us was unable to be in our office but there was a need for synchronous collaboration. Below is a screen capture

of our shared virtual workspace.

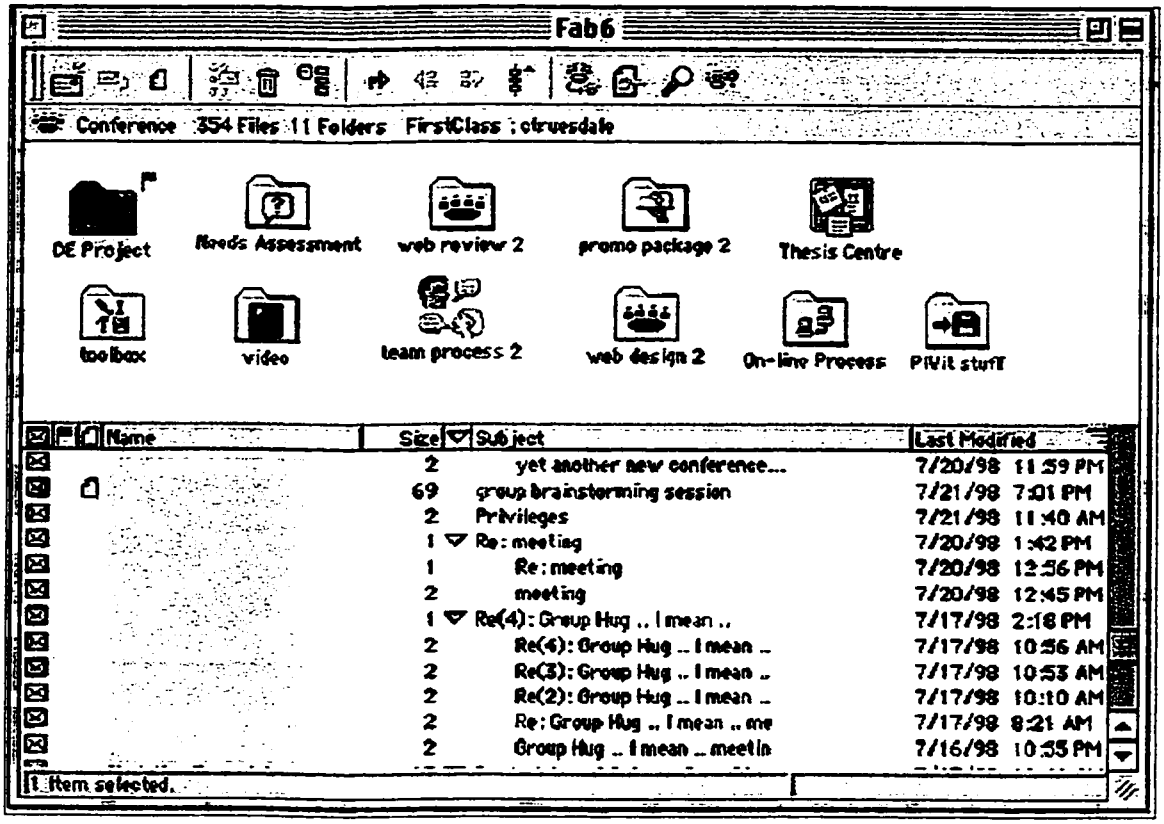


Figure 13 Screen capture of *Fab 6 conference*

Our use of the conferencing system was so ubiquitous that it was not uncommon for three of us to be sitting in our office, each at her own computer with First Class account open, providing our forth team member with updates of the day's progress through frequent postings. The person at home would in turn post her work throughout the day for the rest of us to use and/or modify. There were times when all of us were in the same room and we still used the conferencing software. We worked simultaneously on documents by attaching a file to a message and then posting our additions into our shared conference. One of us would compile and edit the multiple files until our PowerPoint presentation, job aid, web page, or paper was completed. Our team's use of

CMC facilitated our process in the office, afforded us the flexibility to work from home and allowed us to have variable schedules.

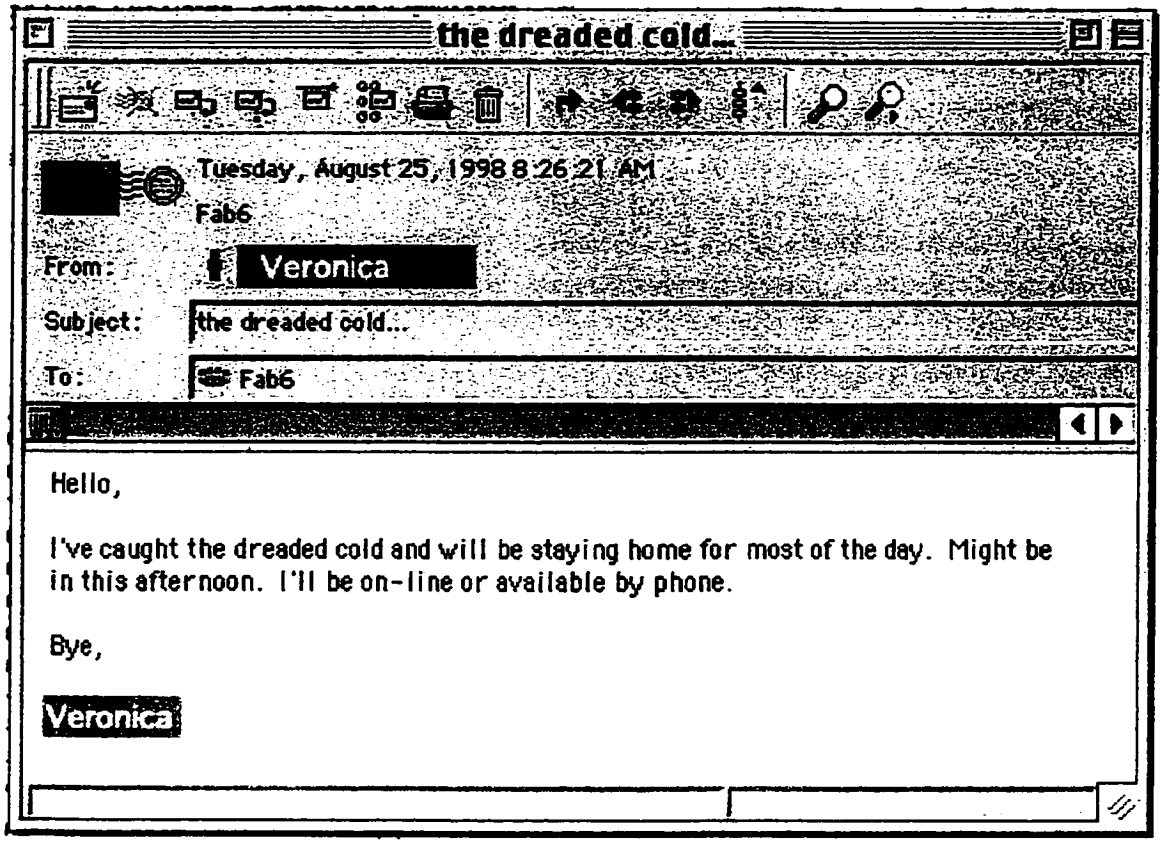


Figure 14 Screen capture of message sent to workspace from home, August 15, 1998.

I also think that our use of CMC enhanced the quality of our work, i.e. how we worked had an impact on what we produced. In a practical sense, the use of a CMC application can be useful when two or more people are collaborating on a project. I have noticed that a text written or pasted into the messaging window provided by the CMC software is more malleable, for a longer period of time, than a text that is written using a word processing application and attached to a message. This may be true because no time is wasted downloading, saving, and compiling multiple versions of the attached file. You simply add to the latest version of the text by replying to the last message in a given thread. I have also found that it is more difficult to track the development of a

collaborative piece when it has been opened and reopened on many computers since formatting can be altered or lost by the differing configurations of word processing software. In the CMC environment, all texts retain their formatting and look relatively the same on any computer. When the group has decided that the work is completed, the text is pasted into word processing software, stripped of its extraneous features (colors, disparate fonts, etc.), and formatted into a "regular" document. However, the original text remains in its many incarnations as a thread in the conference space.

I mentioned "extraneous" features but I do believe that our use of color, fonts and other codes form a part of a symbolic system that over time had become anything but frivolous, i.e. the way that the text is formatted is an essential part of the story. I believe that form and content are inextricably linked. Fonts, color, text size, emoticons and other symbols contribute to the meaning of the message; they lend a voice to the text. While hybrid typesetting has been overused in the past decade in publications such as *Wired*, we should not dismiss it as a fad. As the keyboard replaces the pen for many people, this way of using text is replacing the unique marks of handwriting. I think that there is much fodder for research on the use of codes and symbols amongst work groups who employ CMC.

As a cognitive tool, CMC allows a kind of collaboration that I believe differs from verbal interaction or traditional correspondence. CMC facilitates the development and synthesis of ideas amongst a group because it provides a space for distributed cognition. I believe that we create meaning for ourselves when we transform our thoughts into texts (words or images). Writing allows us to clarify and make sense of our thoughts, to keep a record our ideas. Our writing can provide valuable insights for understanding

our change and growth over time. At any moment, we can reread our texts in order to reflect, to analyze and to interpret our thought processes. I believe that learning occurs as we create new meanings for ourselves and for our communities of practice. When we share our texts, we invite others to enter into a dialogue, into a space where we can create meaning individually and new meaning together. At its best, the virtual workspace can become a shared site for learning with others.

The use of virtual workspaces also creates some (new?) challenges to the research process. It is not uncommon or uncomfortable to share field notes, thoughts and works in progress with our colleagues, whether face to face or through electronic means. But, within the virtual space, who are the members of the research team? Those who are working on specific aspects of a project together seem to constitute a well-defined team, but what about those who are merely given access to a conference space? Does access constitute full team membership? It can be rather daunting to learn that twenty or thirty others, some of them total strangers, have access to your conference and are 'lurking' in your workspace. It would be quite unprofessional to walk into someone's office and read through the papers on his/her desk, look into drawers and filing cabinets and decide to make copies of whatever documents were found to be of interest. This can be done quite unobtrusively within the construct of a computer-mediated conference. It is difficult to track the whereabouts of that insight you posted to your colleagues after a really productive day. Once you have received unsolicited feedback or discovered that an acquaintance has saved a transcript of your focus group data that was posted in your project folder, you learn what to post "publicly" and what to send straight to the mailboxes of those who are directly concerned.

In order to foster an atmosphere of trust when working with large teams and sub-groups, I think that it is probably wise to have regular discussions about proper conduct, ethical codes and intellectual property issues, as events unfold in the CMC environment. If such discussions do not take place, uneasiness and anxiety can occur amongst members of these open conferences, especially for new researchers who may not be comfortable with the research process. Group consensus may not be attainable (or even desirable), but an ongoing conversation may help to identify problems as well as to determine what works best for the team.

Another problem with the use of CMC is that debates tend to drag on and get sidetracked more often that if they were held in a face to face setting. The asynchronous forum allows users to continue a discussion beyond the limits of a formal or informal face to face meeting. This became troublesome for the design team on many occasions, as we were responsible for the design and development of an actual prototype, rather than solely engaging in discussions about an emerging theoretical model.

For these reasons, I think it is important to make a distinction between private workspaces (open only to specific individuals) and public forums (open to larger groups). If you cannot work freely in the virtual environment, concerned that works in progress and field notes may be read and possibly misinterpreted by those outside your core team of colleagues, you cannot be creative or productive within the boundaries of that space. You must feel that your work place is a safe place to experiment and make mistakes, and then to share with others when you are ready to do so.

At a research conference where the team was presenting, a design professor asked our team members how our design process might be different if we didn't use CMC or

used a tool other than First Class as our virtual workspace. We responded that we didn't know, simply because we had not been involved with educational research without the use of CMC. The use of such a tool has probably had quite an influence on the way that we work and communicate with each other, but it seems impossible for us to speculate about how we would work together without it because we never have. I do believe that our process would have been fundamentally different if we were truly working at a distance and CMC was our sole mode of communication. I have spoken to many seasoned researchers who find it useful to be able to send drafts of papers back and forth to colleagues, when in the past they were forced to arrange meetings face to face. However, most of them find it quite astonishing when I recount that once our team of four has completed a paper it had been at times almost impossible to decipher who wrote what.

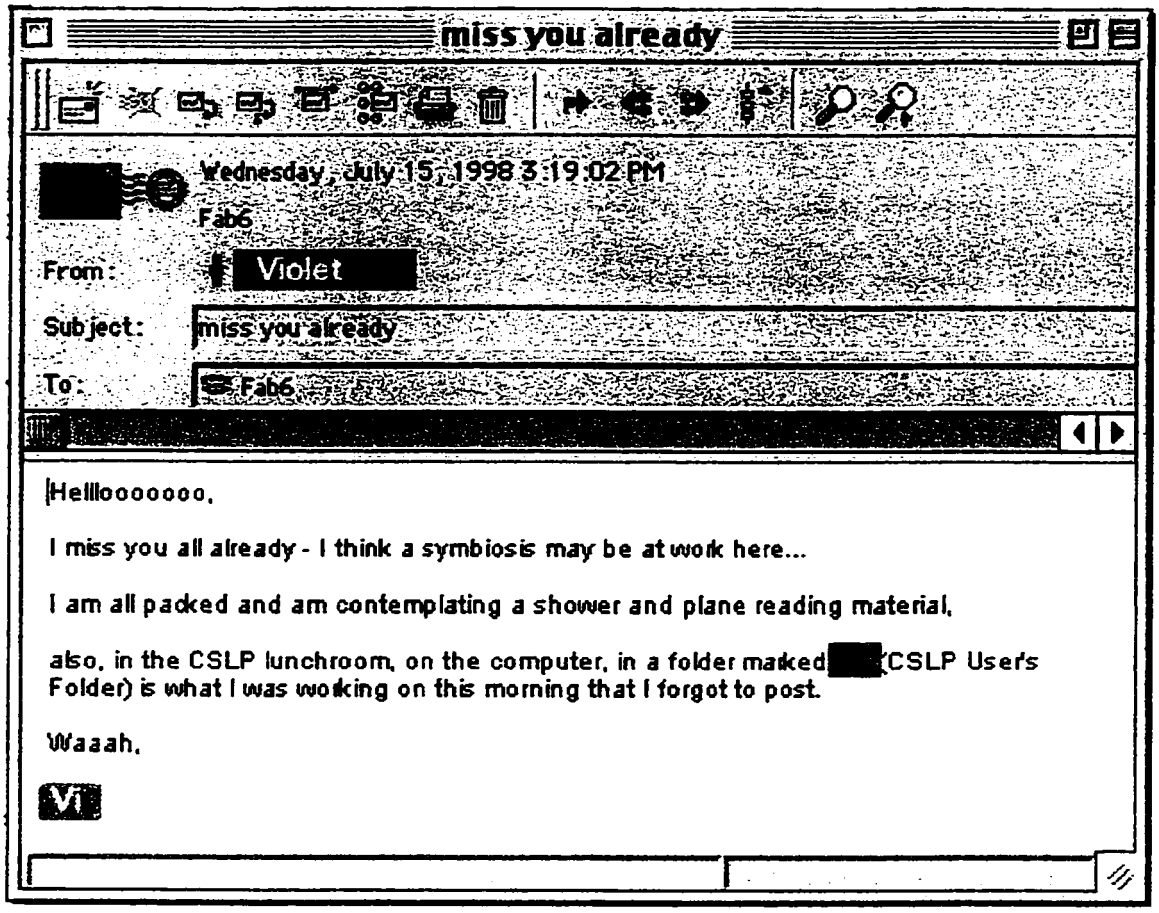


Figure 15 Screen capture from message sent to workspace conference, July 15, 1998.

Was our collaborative process merely enhanced by the tool or was our way of working engendered through its use? Publicly, my response is that I really don't know. Secretly, I suspect that a little intersubjective soul resided in that virtual workspace, fueled by our transpersonal energy, channeled through four pairs of hands typing, each at their own pace...

Chapter 6 - Reflections and Challenges

Salvaging the process - Facing the fear

My original intent to include the participants in the design and construction of the quilt faded as months and years passed. The collaborative quilt making process was intended as the context for our reflection on shared experiences and for gaining an understanding of the many stories which it represented. This became increasingly difficult to realize as time passed because I did not have the time to engage in the completion of the research, let alone set up time for the group to meet. I came to believe that my original intention to use the quilt as a space for collaborative reflection was becoming less and less possible as time wore on. I had taken too much time, there wouldn't be any value for the participants in the reflection sessions. Two of the team members had moved on and were no longer involved in the projects, so I couldn't expect them to devote time to the inquiry.

And my ultimate fear was that if I did organize a reflection session, years after the original experience, I would be left with another set of data to analyze and present that might confound rather than add value to the inquiry. This would make it completely impossible to complete the thesis project within my deadlines. I suppose that the fear that I would be perceived as taking on more than I could handle was omnipresent. I questioned my ability to complete the project on my own and felt a sense of responsibility to the participants in the inquiry. I let myself get caught up in the expectations of others and in my own fear that I might fail. I had invested so much time and effort that I could not face the fact that I might not be able to salvage the project.

I took solace in the fact that I was not completely alone. Gannon (2001) describes her struggles with her own thesis work:

> ... in my own project, particular methodological dilemmas emerged relating to how I could ethically present, or rather *re*present, the texts produced by workshop participants in my own thesis, after the workshops were over and the participants had dispersed. Additionally, questions about exactly what "collective" might mean, or might not mean, in a written text became important for my analysis. (Gannon, p.787)

I found my way out of my crisis through my work with educators who are now faced with the changes emerging from the current educational reform. I see it now as a parallel struggle to the one experienced by these teachers who are faced with change. Those who are overwhelmed, who do not know where to start, simply do nothing, they become paralyzed. Those who take small steps while maintaining a vision of what they might accomplish in the future are able to begin to take action. In abstract terms, I was able to express that I was interested in learning as transformation, as a growth process. I recognized that others needed the time to try things out, to just do it, to reflect and then to reinvest in their practice. But I had to allow *myself* to be transformed. When I realized that *I* didn't have to do it all at once, that *I* could learn from my failures and reflect on what worked, I was able to move on. This lifted the enormous burden that I had placed on myself to produce a successful "final" product.

> "...the richer the fabric, the more threads there are to unravel and explore" (Hoffman, 1996, p.175)

As I worked on the quilt on my own, I came to understand it as a personal reflective space, a site for connecting with my own thoughts and struggles with instructional design. The perspectives of my team members helped to both clarify and render problematic my understanding of collaborative design, but I was moving away

from collaborative exploration of our design practices and turning inward. I was so involved with my personal struggles that I found it impossible to reintroduce the other participants at this point. At the same time, I felt guilty that I was not living up to my inclusive, feminist and democratic aspirations. My intention to include the other participants in the process had not only been planned in order to lend more credibility to my narrative, but to allow us to collaborate in a different kind of way. I wanted my thesis to reflect our stories, to celebrate our lives, our efforts, our struggles and conflicts, to help us to move on. This may have been overly romantic. Instead, in many ways it reflects my personal struggles, inadequacies and my failed attempts at achieving my predetermined goals. It also reveals the fluid, unpredictable nature of the qualitative research process, we don't know what we will find and in what directions the inquiry (and our lives in general) might take us.

A mouthful of fabric and thread between my teeth or Biting off more than one can chew

> The case study researcher faces strategic choice in deciding how much and how long the complexities of the case should be studied. Not everything about the case can be understood – how much needs to be? Each researcher will make up his or her own mind. (Stake, 1998, p.91)

Now, I'm not afraid to admit that I took on more than I could handle. Being a novice researcher, I underestimated the time that this inquiry would take. I also underestimated the amount of emotional and intellectual support that I would require throughout the process. When I took on this project, I had thought about the ethical implications for my participants, but I had not considered the possible impact on my own psyche. I think that my expectations of myself were much higher than what I was actually able to realize in the bits of time that I had to steal away from my "real" personal and

professional life. The time that had passed and the changes that took place in my life made it difficult for me to devote my attention to finishing my thesis.

In hindsight, the scope of this project was much too broad. While I had decided on Jonassen et al's (1995) constructivist learning environment model as a framework for the data analysis, there were too many other issues for me to address given the novelty of this type of project in the Educational Technology program. For a Master's thesis, I could have conducted a literature and research review on arts-based research and self-study in preparation for conducting an inquiry. I might have gone so far as to experiment with a variety of visual ways of representing my design experience based on different sources of data and then reflecting on the process. However, I would not have included the collaborative aspect of the inquiry, nor the eight month time span of our design process simply because it was all too much to handle for an inexperienced researcher who did not have the mentoring of arts-based researchers in situ. Reviewing the work done by Clandinin's doctoral students (Cornett, 1999; Cambell-Bonar, 1992) and Maura McIntyre's (2000) dissertation from the Ontario Institute for Studies in Education of the University of Toronto, helped to confirm my feelings that I would have been better served by narrowing the focus of my inquiry.

When I took the Reflective Practice course offered in the Department of Education, I realized that even one small event could be the object of extensive study. Having learned from this inquiry and my experience with the coursework in Reflective Practice, I would be more careful in determining the scope and be more specific about the area of practice to be improved upon. I think that I would like to pursue action-oriented collaborative inquiry within the framework of collaborative design in the future. I feel

that now have a better sense of the time and effort that this type of research might entail and the challenges that are involved in its implementation.

A note on process- the difference between writing and art-making for a visual thinker

I know this might sound strange to some, but the process of writing a standard paper is much messier for me than the process of creating visual art. The fact that I do not see myself as a writer in any sense of the word probably complicated the matter. While it has been quite easy for me to visualize concepts and ideas, I have had a difficult time putting words on to paper in a timely fashion. Writing comes to me in spurts, usually early in the morning. As I wake up the words are flowing- and fleeting. If I do not rush to write them down, the thoughts, in word form, are gone. So, dare I have an inspiring thought on a morning when I have to get up at 5:00am to get to an early morning meeting?

On days when I scheduled writing sessions, faced with a blank page, the words sputtered out leaving me anxious and frustrated. At these moments, it was not usual for my mind to wander (and even my body) away from the task at hand in order to accomplish the most menial chore. I have tried tape recorders, free-flow stream of consciousness –type writing, post-it notes , pretty notepads and mind mapping with little success to date. I have found that mind mapping is extremely useful, but it leads to further visualization rather than "verbal" thoughts.

In contrast, I rarely lose my visualization and a mere sketch can take me backed to its essence at a later date. As some writers might be able to create an outline of what they are going to write, I often have a sense of what my artwork will look like before I begin the execution. The rest is in the doing. This is not to say that I never make changes or

follow a different path, as this often occurs. But, the fact is that I am able to see where I might be headed, something that I find impossible when writing.

I do not want to become a Howard Gardner poster child, but I do believe that this issue has some important consequences for education. While I do not feel like a writer, I am an in some awkward way, able to articulate some ideas in writing. I feel for those whose minds do not allow them to share their thoughts verbally and whose artistic proclivities are discouraged by a system that favours the linguistic over visual, musical or even poetic thought.

Limits of the Inquiry

In an inquiry such as this, I am mindful that "subjectivities observed in one setting are only slivers of multiple selves across diverse settings." (Agee, 2002, p.573) I make no claims other than setting forth a vision of the process, informed by the views of the participants in this inquiry, and the documents and artifacts that were left as traces of our experiences, but it is nonetheless only my personal view. I am certain that others involved in the process would have constructed their own personal visions. However, I do hope that despite its constraints, this inquiry serves to engage the readers/viewers in a conversation about the instructional design process and multimodal forms of meaning-making (Cope & Kalantzis, 2000).

Limitations of Reflective Practice

One of the limits of reflection-on-action is that it is always about something in the past, it is retroaction. So, while I can think about what I did before so that I can do differently the next time, I haven't changed what I was doing. Also, my reflection is

based on my memory of what occurred. I am already beyond it. Through this process, I may have gained access to slivers of tacit knowledge, but only to those perceptions, beliefs and habits that I have objectified. Further, I subconsciously may not want to access my thoughts because I would have to let go of what I am doing and see things in a completely different way. As this is a practitioner-research in context, it is a story of experience framed by time and space, within the boundaries of a particular design project. All of us have grown and changed with time and experience, and so this is an interpretation of *what was* rather than *what is*.

Reflection-in action, while it is closer in time, is still retroactive to a certain degree because it is also reflective process. It requires a pause. I suppose that an expert at reflection-on-action would be in a constant mode of take action-reflect-take action-reflect. Although we knew as a group that I would be conducting my thesis work on our design process, we did not engage formally in reflection-in-action as a part of the inquiry. Given the tight timeframe and the size of the team, there was little time to allocate to reflection while we were in the midst of working on the project. Another reason, as Wolf (1996) points out, is that "because of different needs and different personal investments, if a project falls apart because of a disagreement, a researcher may be left in a precarious situation." (p.27) In this case, more than a researcher was at stake, but the integrity of the project, our jobs and the thesis work of other graduate students. In other words, our commitment to the project took precedence over my inquiry into our design process.

Despite these problems, I do believe that there is great potential for improving practice through reflection and that it would be an extreme measure to discard it outright.

It takes time and effort to become aware of your thoughts and actions, and you must be prepared for the challenges that it entails.

Emerging experience in the quilting world

Another limit to this study is that despite my efforts to familiarize myself with the techniques, skills and knowledge domain of quilting, I am only beginning to scratch the surface of that community of practice. While I am interested in the study of quilts and quiltmaking, due to a lack of time, I was not able to immerse myself fully into the quilt world or become a member of a quilting guild. While I do have years of training in the visual arts, I am by far a novice in all matters concerning quilting. I see the work that I have done as sketches or exercises in quilting and is by no means representative of the work that is accomplished by amateur or professional fiber artists. In some respects, there are benefits to being in this position because the production process involved a lot of questioning and experimentation that I may have bypassed if I was painting or drawing, as I feel more comfortable working in these media. However, I feel an affinity for the medium and will continue to use and experiment with fibers in my art practice. Nonetheless, in my naïve understanding of quilting practice, I may have missed many opportunities for subtle connections and more graceful representations. The possibilities may have escaped me and the layers of meaning may only be revealed with time.

The problem space of postmodern, poststructuralist qualitative research

> In qualitative research, the project of criteriology experiences particular contradictions because of the difficulty in regulating and constraining an endeavor whose guiding philosophy often stresses creativity, exploration, conceptual flexibility, and a freedom of spirit. Additionally, though, conceptual proliferation is a marker of the paradigm shifts and crises of legitimation and representation, which have characterized "moments" in

> the recent history of qualitative methods (Denzin & Lincoln, 1994). (Seale, 1999, p.467)

The postmodern and poststructuralist standpoint is not a necessarily a cozy one precisely because "the qualitative research act can no longer be viewed from within a neutral, or objective, positivist perspective" (Denzin & Lincoln, 1998, p. 22). According to Denzin and Lincoln (1998), this places the researcher in the midst of two crises in social theory –the first is the representation crisis and the second is the legitimation crisis. I will begin by addressing issues of representation and then follow with a discussion on legitimation.

Issues of representation in the inquiry context

> *Writing down* compels us toward a monologic text which may not represent the very dialogic nature of our work and interactions (p. 199). (Clark et al.,1996, in McCotter, 2001)

In the representational crisis, the traditional assumption that the qualitative researcher can "directly capture lived experience" in the written text is called into question. Rather, the experience " is created in the social text written by the researcher," in other words, the text does not reflect a fieldwork experience that is distinct from the writing process, the field experience and the writing "blur into one another" (Denzin & Lincoln, 1998, p.21). In this sense, in the presentation of the research text it is impossible to separate the experience of designing the *qesn.connection* as it *was*, from my reliving of the experience throughout the inquiry process, they have become one.

Through my interactions with many experienced researchers, practitioners and professors, I found that many people were concerned with how to represent others justly. It seemed to be a primary concern at the workshop on Arts-based Inquiry held during the

Advances in Qualitative Research Methods conference in Edmonton, Alberta. What do you do when your 'results' are not numbers or graphs, but people with lives and stories they've shared about themselves? Issues about representation, anonymity, power, viewpoints, truths, time, and relationships with participants surfaced in the stories of veteran researchers and junior researchers alike. I was inspired and comforted that I could be involved in such a discussion, yet there were no solutions. But, I wasn't really looking for answers... there are no easy answers...

The following is an excerpt from the discussion period of my presentation at the *Advances in Qualitative Research Methods* conference entitled *Threaded Together* (Truesdale, 1999).

> Comment from an audience member: You expressed a concern about reciprocity between you and the other women... In my own work, I'm a visual artist, my medium is drawing, and I'm finding, I'm dealing with two areas of research, one is with children and meaning-making and understanding and I'm also having to look at myself. What I'm doing is I'm studying my own drawing practice, the medium I use. One of the things I've discovered - in my drawing/ art making and I draw from life, so I draw from female figures - I had a real problem with that reciprocity, typically in a drawing studio, using female models that were brought in. Women would come in, strip naked and sit up on a pedestal and I had a real problem with the taking from that person, appropriating for my own ends... In a way there is a similarity between that and the researcher going and taking from the subjects, and using to my own ends.

Being the subject of research

How does one represent others justly? In part, I think, by understanding what it is like to participate in research/art as a subject and to read about/see yourself, to read/see someone else's representation of you and to reflect on your own reaction. While I was working on my thesis proposal in 1999, remembered that I had an opportunity to do so. I was one of the students who was interviewed for a study conducted by an Art Education instructor's dissertation called: *Who is this self I'm supposed to be expressing? Narrative*

inquiry into the art and learning of twelve women visual arts students (Cooley, 1996). I had never read the dissertation before. The work of Belenky, Clinchy, Goldberger & Tarule (1986) *Women's Ways of Knowing* was used as the framework for the analysis of the interviews. Due to my participation in this study, I have a thirteen page narrative about "me" and a composite analysis of which "I" am one of the subjects/objects of study to explore and reflect on.

Reading the research text

The first thing that I did when I brought the 380 page brick back to my office was to announce to my colleagues that I was going to use some of the narrative about me in my thesis. Then, I searched for 'myself'. The participants were given pseudonyms because the study was conducted at Concordia... First, I identified the words of someone else as my own and declared "That's me!" - only to realize very quickly that no, that was not me... I searched a bit more and "found" myself. I didn't like the pseudonym that was chosen for me... Then, I found an error - my father is not an Anglophone Protestant, he is an Anglophone Catholic - I had stated that he was anglophone and that had been interpreted as protestant. This was followed by some historical information and a discussion of my relationship with my parents, my experiences as a student in a private Catholic girls' high school. Then I read some of my statements about wanting to pursue studies in bio-medical engineering (a couple of years before I applied to the educational technology programme, that's what I wanted to do...).

> She has come to understand her pursuit of bio-medical engineering not just as the acquisition of knowledge in that field but in a more particular and intensive sense. [1]

> "I would also like the structure to see how people who do work in those fields and make those decisions, come to make those decisions. How are they taught to do their research? Or what is it that motivates them to develop that kind of technology?"

I read the footnote:

> Footnote: They (procedural knowers) believe that each of us looks at the world though a different lens, that each of us construes the world differently. They are interested not just in what people think, but in how people go about forming their opinions and feelings and ideas. (Belenky et al. 1986: 97). (Cooley, 1996)

I was seeing my words attached to words in a footnote, trying to understand the link that was made, reading my owns words as a subject/object of study. I have realized that my views have shifted somewhat - I'm now more interested in shared meaning, how we construct (or fail at constructing) meaning with others. And also how we interpret the work of others and by relating it to our experience, create our own meaning. While I felt that this was probably an adequate representation, in some ways the person that I was reading about was not "me" anymore... I felt detached.

As I read further, I came upon a discussion of a sculptural piece that I had made that was related to my godmother's death. I didn't remember that I had spoken about it. As I read the words, I was a bit stunned and I cried. The process of making the piece had been a very intense experience for me, and showing it during a critique had been quite difficult. Reading my account of it in print made these feelings resurface, even years later. When I was speaking during the interview and afterwards, I had never thought about what it would feel like to read about it. In fact, I had forgotten about it. I don't regret that I spoke of it, but I didn't anticipate that the vulnerability could remain active, could be recalled. This was "me" on the page, in the raw.

Reflections on being a subject

I think that it was a great opportunity for me to have access to this text. This has allowed me to reflect, to have a sense of what it feels like to be an interviewee/participant without having some choice or voice in the selection of the words which represent "me" and in the analysis of those words. I can enter into the text and relate to parts of it as a representation of me, while remaining somewhat distant because these are my words but they are a part someone else's story and my name has been detached from them. While I think that this slice is a fair representation, I somewhat disagree with the following statement: "I have written stories in a manner which informs readers about the perspectives on learning held by these women at a certain moment in their lives" (Cooley, p.303). I believe that the stories inform the readers about the researcher's perspectives on learning as she was informed by her subjects, her experience as a teacher and a student as well as by theory. I do not mean to imply that this does not inform the reader, but that the views of the interviewee's words were mediated and made to fit into a theoretical framework. I believe that this is the nature of the work of the writer, editor, artist – one cannot remove oneself from the work – the story always has a narrator. In this sense, while the researcher may weave the stories of others into the research text, she is using them to tell *her* story.

> I seek to ask, question and actively inquire into the changing meaning and plurality of evaded experiences. I look into the mirror and think about how I draw the veil aside...I wonder about the implications of the research: Whose gaze? Whose voice? Whose meaning making? ...I trouble and refocus my reading of texts in an already interpreted world. (Bach, 1998, p.221)

As a result of my experience as a subject, I wanted to explore participation differently. I aspired to give the participants in my project a chance to take a more active part in the construction of their own narrative and the collective narrative. At the same time, I realized that I would still have a distinct role, in that I would be at once a participant and researcher/artist, both researcher and researched, and that in this role I would be a challenging one. I would have the role of piecing it all together, of orchestrating the research. As bell hooks (1995) states, "Writing about art, making art, is not the same thing as being the subject of art." Writing about research, doing research, is not the same thing as being the subject of research...

I found myself further engulfed in this crisis of representation during this inquiry process, as I struggled to represent the voices of my colleagues. I had expressed the initial discomfort that I had felt when reading a researcher's account of my interview responses in her dissertation. I didn't want to fall into the same traps as a researcher. My views on the account had changed as I reread them, but I still wasn't sure how I was going to present the data from my own research. The struggle was compounded by the fact that I had lived this kind of representation crisis in my art work ten years before. I had been unable to reconcile my theoretical standpoint with my practice and found myself unable to produce anything artistic. I became terrified and overwhelmed that this might happen again, so I found comfort in avoidance and denial. I think that I convinced myself that it was better not to finish than to fail. I became an expert at procrastination.

I have yet to overcome my discomfort with the representation of others in the research text and in artistic work. Issues of authority remain even if the researcher is an insider, a member of the group that is the focus of the inquiry. At this time, I believe that

the best solution is for all participants to be recognized as authors of or contributors to the research. If the research initiative had been funded, and had not been undertaken as my own thesis project, then it may have been easier for us to engage in a collaborative endeavor. In other words, because this is my thesis work, I must be the sole author and therefore we could not produce a co-authored text in order to graduate. I do not believe that it would have been just or ethical for me to ask my colleagues to contribute substantial time and energy to this project without being given full recognition as authors of the work.

Issues of legitimation

> If the whole world were purple, we would not be able to see a thing. It is by virtue of contrast, contrast that is both qualitative and in more customary terms ideational, that helps us notice the all too familiar. When everybody is quantifying the world, it looks as though there are no other options. When everyone requires random selection of a sample from a population as a condition for generalization, it looks as though that idea is made in heaven. When almost everyone conceptualizes validity in terms of its four canonical conditions, the meaning of validity becomes a kind of catechism that novices memorize. (Eisner, 1997b, p. 263)

Elliott Eisner, in his 1997 lecture to the delivered to the Qualitative Research Special Interest Group at the annual AERA meeting in Chicago, remarked that one of the consequences of the emergence of new methodologies and conceptions of knowledge production was that some light was shed on many of the assumptions of traditional research.

> The legitimation crisis "makes the traditional criteria for evaluating and interpreting qualitative research problematic" and calls for "a serious rethinking of such terms as validity, generalizability, and reliability" in the "poststructural moment." (Denzin and Lincoln, 1998, p.21-22)

With respect to issues of validity, generalizability and reliability of my inquiry - or their many post-positivist incarnations, I turned to many different sources. Given my

bricoleur tendencies and my penchant for exploring issues pertaining to methodology, I could have written an entire thesis on these issues. As suggested earlier, these are by no means simple times and there are no easy answers to the problems posed at present. I cannot claim to have found any solutions and probably have many more questions than answers at this point in time. As Denzin (1998) suggests, many of the previously agreed-upon criteria and claims to authority from both positivist and post-positivist viewpoints are presently being challenged. Discussions of method and process are increasingly political, personal and experiential in age where researchers can no longer lay claim to a value-free social science (Denzin, 1998, p.315). With respect to truth seeking, I think that there is some wisdom in the words of Timothy McGettigan (1997):

> I believe that imperfect scientists can best serve truth by caring about people more than they care about knowledge.
>
> The knowledge that scientists produce is always going to be flawed and incomplete. Therefore, rather than being overly pessimistic about the definition of truth within the structure of existing knowledge, I believe that it is much more fruitful to search optimistically for "the continent of thought just beyond the horizon" (Pefanis, 1991, p. 138, cited in Lather, 1993, p. 687) that might serve unexpectedly to redefine the seemingly insurmountable difficulties that the pursuit of truth implies in a postmodern world. At the very least, privileging the welfare of people over the pursuit of knowledge decreases the chances that imperfect researchers will exacerbate the problems of the people from whom they seek knowledge.

With this in mind, here are a few of the perspectives from the contexts of action research, qualitative inquiry, arts-based inquiry that I have chosen to address with respect to this inquiry.

Threats to Validity in Action Research Context

Admittedly, there are problems associated with action research methodologies. One is the tendency to "overemphasize small group behavior at the expense of wider

political processes that define reality." (Reason, 1998, p.284) This study was focussed on the design process of graduate students working in a team within the context of a larger research centre. It is certain that an inquiry focussed on the larger team would have yielded a different portrait of the process. But that would have been another story, another research endeavour. I admit that felt uncomfortable conducting an inquiry with such a diverse group, especially since I was experimenting with arts-based methods for the first time. Morever, because I was employed by the Client and Project Manager and the Project Administrator was my thesis supervisor, I felt that it would have been difficult to enter into a researcher/researched or co-researcher relationship with these individuals without compromising my employment and academic situation. I did ask and was granted written consent by these project participants to use artifacts and traces of process that were relevant to the design of the *qesn.connection* project.

> In short, validity of inquiry in the action context is threatened by a variety of defensive routines, including self-censorship and face saving. (Argyris, Putnam & Smith, 1985, p61)

I do think that the presence of members of the larger group would have exacerbated this situation. Many of the issues that arose during the design process were left unresolved and given my inexperience and position I did not feel that I could adequately handle the possible outcomes. While it was unlikely, I felt that I might also be jeopardizing my thesis work and my job.

In a conversation with one of my committee members after my proposal defense I wrote the following:

> ***Your question:*** *What could potentially happen when we reflect as a group on our design process for a project which occurred in the past?*
> ***My answer:*** *We could, together, construct a story that we agree upon but that is fabricated (consciously or not, I suppose) to suit some collective purpose - making*

> *ourselves feel good, look good to others, avoid conflict, etc. There are several ways to address this:*
> *- using the artifacts that we have in our possession (FC messages, notes, audio tapes etc.) to serve as reminders and to provide checks and balances of our collective memory*
> *- making the most of/beyond paying lip service to multiple perspectives: to make sure that we report not only on those issues/events where we have reached consensus, but also on those where our accounts differ, by making our sources of disagreement transparent another method, although it might be quite tricky, is to go outside the core group to get additional information or an outsider perspective (this is commonly employed in reflective practice). Depending on how it is done, this may stir up the problem that you had mentioned to me in the hallway - the core group will be painting a Picasso and those outside will paint a Molinari...I believe that this could happen...*

I attempted to address this issue within the participating group by ensuring that the participants were involved in framing the research. We discussed the boundaries of the research, ie. what remains private, what can be shared and how process will be represented publicly, in order to maintain an atmosphere of trust amongst the group. By using multiple data sources rather than only the reflection session tapes, I was able to provide the checks and balances mentioned above. One of the means that I employed to ensure the transparency of different viewpoints of the participants was to use large chunks of text rather than piecing together seamless accounts of the process and leaving out the messy bits. Nonetheless, research conducted by Argyris, Putnam and Smith (1985) suggests that:

> human beings, when dealing with threatening issues, typically act in ways that inhibit the generation of valid information and create self-sealing patterns of escalating error. For example, people automatically withhold thoughts and feelings, or state them in ways that makes it difficult for others to challenge. They speak at high levels of inference, assume that what they say is concrete and obvious, and avoid creating conditions that might disconfirm their views. They attribute defensiveness and nasty motives to others, do not state these attributions publicly, and act in ways that elicit behavior that they interpret as confirming their attributions. They are predisposed to attribute responsibility for error to others or

> to situational factors rather than to themselves. Patterns that maintain this situation are treated as undiscussable and are covered with a layer of camouflage. Many of these features are protected by layers of genuine unawareness and by defenses to maintain unawareness. (Argyris, Putnam & Smith, 1985, p61-62)

Yet despite any efforts made to prevent defensive routines, as Aryris, Putnam and Smith (1985) suggest, it is likely that they were at play during the team meetings, the written communication, as well as the reflection sessions that I conducted for the purposes of the inquiry. However, these would likely be present in *any* practical and research setting. Therefore, while my own research is not immune to the effects of these behaviors, neither is any other research activity.

Addressing the "Perils of the New Frontier"

Along with describing the promises of new forms of research, Eisner (1997b) pointed out a number of potential perils of arts-based research methodology that I will attempt to address with respect to this inquiry.

Publishing nontext material

As Eisner (1997b) described, it was and still is difficult to publish anything but the written word in existent journal formats. He did point to the possibility of including CD-ROMs in text publications. This seems to have become a viable means of viewing images, video clips, and other visuals as well as listening to sound files. Another alternative is to publish research texts in online journals. A number of new journals are now soliciting alternative forms of research to be published on their websites.

Given that the students in the Educational Technology programme frequently submit educational software, videotapes, videodiscs, and such to accompany their written

documents when submitting their work to the thesis office, I did not encounter any difficulties when I proposed to include a CD-ROM documenting the visual portion of the inquiry. Since I have no aspirations to lead an academic life, I will not be attempting to publish in any scholarly journals in the near future. If at some point I decided to share my work in some public format, I would probably do so by creating a website.

I would like to add to Eisner's comments by saying that I found this particular written format to be limiting and constraining due to the nature of my work. The creation of a website containing hyperlinked pages and images of the quilt interspersed with written text would have been more conducive to the spirit of the inquiry. While it may not be suitable in order to meet the requirements of the School of Graduate Studies, I would like to suggest that this alternative form of presentation be considered in the future.

Lack of faculty expertise in non-conventional modes of representation

> The price paid for innovation is having to pick up what you can here and there and knit it together as best you can. (1997b, p.266)

Eisner (1997b) stated that another of his practical concerns was related to the fact that "little or no tradition in the use of nonconventional forms of research exists in most universities and, as a result, there is often little faculty expertise that students can draw upon." He suggested that a lack of guidance might leave students on their own without the requisite skills to explore their chosen medium to its fullest potential, possibly resulting in "a visual disaster" despite the noblest of intentions. (Eisner, 1997b, p.266) He maintained, however, that this was not an unusual condition because "innovation, by definition, is new; and when something is new, experience is limited." (1997b, p.266)

I will address this issue from a technical perspective, then address the conceptual issues surrounding my research process.

Technically, I think that I was able to avoid the creation of the "visual disaster" because of my previous training in the visual arts. Furthermore, I would not have attempted quilting as a method of inquiry without possessing the ability to sew. I do not think that it would have been appropriate to view this as an opportunity to learn to design with fabric. In addition, I am quite certain that my advisor would have been less convinced by my research proposal if I had not had prior experience in the visual arts.

While there were no in-house quilting experts in the Educational Technology programme, I did not find it difficult to locate print-based and Internet resources to assist me in constructing the quilt pieces. The University's library is well stocked with books on fiber arts due to the Fibers option that is offered in the Faculty of Fine Arts. Given that quilting has reemerged as a popular hobby, I was able to amass my own collection of books on quilt design and fabrication.

One of the ways that I tried to address the lack of expertise in the Educational Technology program was to try to make connections to researchers in other universities. I decided to attend the *Advances in Qualitative Research Methods* conference in Edmonton in January 1999, where I presented my research proposal. I also attended a pre-conference arts-based inquiry workshop given by Elliot Eisner and Jean Clandinin. The connection that I was able to make with both Eisner and Clandinin at the workshop was incredibly inspiring. At the time, Clandinin was supervising a student who was creating a quilt based on bible stories for her dissertation. Eisner handed me his unpublished notes on an arts-based research framework so that I could copy them in order to provide

justification for my research. Researchers from the Ontario Institute for Studies in Education presented their work, performed and spoke candidly about their collaborative research practices. I felt at home.

However, back in Montreal, I felt that I was on my own to justify my research practice, in that it was such a departure from the type of research that was being conducted my program. In a way, I wished that I hadn't experienced what could be. I wrote to Jean Clandinin, but could not gather enough courage to write to her student.

I will make a point for those who might want to take on this kind of inquiry in the future. At times, I was completely overwhelmed with the project and felt that it would be impossible to salvage what I had done and complete the work. The fact that I was very busy in my personal and professional life did not help matters, as I could easily keep myself occupied with a list of other chores.

By now, you have probably asked yourself, "How I will I be expected to make any sense of this thing?" I will not deny that as a trained visual artist I have begun to develop refined sensibilities for the visual arts, much in the way that a statistician has developed sensibilities for quantitative data analysis. However, I think these differences in expertise or connesseurship, as Eisner would put it, are faced by both artists and researchers in all domains and they should be acknowledged and addressed. Not all members of an audience are as well versed in the medium and language employed by the artist or researcher, whether it is statistics, painting, quilting or meta-analysis. As Swann (2002) suggests, just as verbal or musical literacy, visual literacy "requires practice and intelligence well versed in the history and concepts embedded in the form for full interpretation." (p.52) No one person can be an expert in all fields of study. I am aware

that this type of research is not yet common amongst researchers in Educational Technology. Yet, I do not believe that we should discourage new forms of inquiry simply because we are unfamiliar with their characteristics. I understand however, that it is my role to provide more contextual information and more explanations than if I had been studying in another Faculty or University where more faculty members practice arts-based research.

It is clear that at this point in time I would not be allowed to produce the art work portion of the thesis without the supporting text in order to fulfil the requirements of the Master's program. Swann (2002) states that while there exists "a fierce defense of the idea that the artifact is sufficient evidence of its purpose and existence," most academics insist that "visual expression be complemented by substantial verbal explanation (p.52). A distinction has been made between works that are intended for exhibition purposes and works created within the context of a thesis. This is based on the assumption that "works presented in an academic context require textual elucidation and critical (self)-reflection on the part of the researcher, as well as validation from the examiner..." (Doloughan, 2002, p.58).

Validity Through Structural Corroboration

> Structural corroboration is the process of gathering data or information and using it to establish links that eventually create a whole that is supported by the bits of evidence that constitute it. Evidence is structurally corroborative when pieces of evidence validate each other, the story holds up, the pieces fit, it makes sense, the facts are consistent. ... we can ask about the extent to which the facts presented or the interpretation of those facts is corroborated by the way in which they support one another. (Eisner, 1985b, p. 241-242)

While I do not necessarily agree with Eisner that we can truly "create a whole" from the information gathered, and I believe that many different understandings can coexist without any one of them, or any amalgam of them leading to an "Absolute truth", I am mindful that many voices give us a richer picture than solely my own. As Reason (1998) states, "In some important senses we choose our reality and our knowing of it – individually and collectively; therefore, valid human inquiry essentially requires full participation in the creation of personal and social knowings..." (Reason, 1998, p.279). Therefore, in addition to gathering field texts from many sources, the participants were included in such activities as determining the boundaries for the exploration, providing the content of the quilt, and negotiating the aspects of our process that would be represented.

Validity in Qualitative Research

> ...objectivity is a function of intersubjective agreement among a community of believers. What we can productively ask of a set of ideas is not whether it is *really* true but whether it is useful, whether it allows one to do one's work more effectively, whether it enables one to perceive the phenomenon in more complex and subtle ways, whether it expands one's intelligence in dealing with important problems. (Eisner, 1985b, p.241)

Janesick (1998) describes validity in qualitative research as having to do with "description and explanation, and whether or not a given explanation fits a given description. In other words, is the explanation credible?" (Janesick, 1998, p.50) She suggests using member checks as a means of cross-checking one's interpretations. However, she concedes that it be difficult to reconcile the very concept of validity when as Wolcott (1990) argues, there is "no single 'correct' interpretation" (Janesick, 1998, p.50). Eisner (1999) asked at the end of his arts-based research workshop: "What do we

do with multiple interpretations?" My response to this is that we should incorporate them into our research texts. Rather than drawing conclusions only from those aspects of situations where there is agreement amongst participants and stakeholders, we should make a point of reporting on the many ways in which such things are understood. The picture that is painted might resemble a cubist work rather than a traditional portrait, but it might provide a more appropriate description and analysis of the context. However, I do believe the notion that " representation, of course, is always self-representation. That is, the Other's presence is directly connected to the [artist's] self-presence in the text. The Other who is presented in the text is always a version of the researcher's self " (Denzin, 1998, p.319). Writing multi-vocal, co-authored texts is one way to arrive at a more balanced research process but it is not always a practical solution.

Validity in the Context of Arts-Based Research

> Validity in the arts is the product of the persuasiveness of a personal vision; its utility is determined by the extent to which it informs. There is no test of statistical significance, no measure of construct validity in artistically rendered research. What one seeks is illumination and penetration. The proof of the pudding is the way in which it shapes our conception of the world or some aspect of it. (Eisner, 1985a, p.191)

As Eisner states, there are no simple measures of validity in arts-based research. The extent to which this inquiry will inform the participants and the readers about our design process remains to be seen, it is up to the readers/viewers to make their own judgements. What constitutes legitimate persuasiveness in arts-based research? According to Eisner (1997b), the answer is that what arts-based educational research "seeks is not so much conclusions that readers come to believe but the number and quality of the questions that the work raises" (p.268).

> Is there a way to ground persuasiveness in some kind of evidence or analysis without resorting to the same reductive procedures that motivated the move away from them? Put another way, can we have our evidentiary base and still maintain the sometime imaginative and poetic quality of well-crafted qualitative research? The questions that I have raised are by no means easy to answer, and I do not want to appear from this podium as if I had answers to them. (Eisner, 1997b, p.268)

I will contain my discussion to the visual arts rather than all the arts, as it relates to this inquiry rather than arts-based research in a wider sense. Young (2001) provides some useful insight into this issue.

> A work of art gives us a way of looking at the world. In order to test the work, we need to look at the world in this way. Audience members need to ask themselves whether the perspective provided by an artwork is supported by their past experience. They may need to seek additional experience before they can decide whether some perspective is right. (Young, 2001, p.106)

He states that "a good work of art can be convincing just because it enables audiences to reinterpret their past experience" (p.106). Young (2001) states that in some instances, audiences have an immediate sense that the perspective presented in a work of art is "right."

> On other occasions, audience members may need to reflect carefully on their past experience before they can recognize that an artwork's perspective is right. In any case, an artwork will not enlighten audience members unless they have had a specific range of past experiences. (Young, 2001, p.106)

'Certainly, some works of art will touch viewers more profoundly than others, however, I argue that any traditional research report will provide more insight to those who are informed about the object of the study than to those who have little interest in it.

Hedy Bach (1998) suggests that visual narratives "are a site of a societal entity that acquires significance in the presence of the viewer." (p.108)

> The visual narrative operates under the basic premise that ...the story and its viewers in any given dialogue are mutually constructing: the visual narrative and the readers share an equal responsibility in determining meaning from within any dialogical context... Visual narratives make no truth claims. (Bach, 1998, p.108)

The creation of the visual text, in this case, the quilt, is only one part of the work. Only one side has spoken in this conversation, communication is not complete. As the artist, I cannot control what the reader will see, how she/he will engage with the piece, what his/her response will be when encountering the work. The reader brings him/herself to the text and must take actively participate if meanings are to be generated. Whether s/he is watching a film, reading a research article or looking at a quilt, the active reader weaves through the form and content of the text. This involves interplay between the former and the latter. On one hand, the reader focuses on the subject, in order to allow him/herself to enter into the text and through it construct meaning and on the other hand, the reader focuses on the object, the form, on what the text *is* rather than what it might *be about.*

> In artful inquiry in particular, representation of the research text has a dual function or role. It is both communicative and evocative. It has both authorial intent to convey a substantive message and generative intent to engage the "audience" in a self-study process. Put another way, there is an intention for the audience to "get it" and an intention for the audience to "experience it". (Cole & McIntyre, 1998)

Concerns relating to ambiguity in forms of qualitative research

> In literary circles, ambiguity has a positive, constructive contribution to make to the overall character of the story. At the same time, ambiguity creates uncertainty regarding the phenomena to which the story refers, hence making it difficult for readers to know with reasonable precision the point being conveyed. I feel a tension in these two pulls: the pull toward precision and the pull toward the

> productive consequences of ambiguity. I have no way at this moment to resolve the tension. I only want to acknowledge the dilemma that I feel in wanting to afford readers opportunities to imaginatively participate in the educational situations described without, at the same time, creating work that functions essentially as a Rorschach inkblot test. (Eisner, 1997b, p.267)

This is one of Eisner's concerns that could be debated at length, and could in fact be the subject of an entire thesis. While this is certainly beyond the scope of this paper, I will address some of the issues that I think Eisner is touching upon here. Shaun McNiff (1998) suggests that we have to make a distinction between the epistemologies of aesthetics and science and allow ourselves to move beyond the "crippling insecurity" caused by "an inability to tolerate ambiguity in ascertaining meaning." (p.161) Barone (1997) states that the purpose of arts-based research is to "generate a conversation about about important educational questions." (p.223) In order to "rattle commonplace assumptions and disturb taken-for-granted beliefs of the reader to generate thought and discussion... artistic texts must invest in ambiguity", they are suggestive rather than conclusive. (Barone, 1997, p.223-224)

I believe that we have to accept that there are few easy answers, that reduction is not the only means of dealing with complexity. We have to accept that we will not be able to grasp concepts in their entirety and that we cannot control this process in others. We can only invite others to join the conversation. As Catherine Bateson (1994) stated:

> Ambiguity is the warp of life, not something to be eliminated. Learning to savor the vertigo of doing without answers or making shift and making do with fragmentary ones opens up the pleasures of recognizing and playing with pattern, finding coherence within complexity, sharing within multiplicity. Improvisation and new learning are not private processes; they are shared with others at every age. The multiple layers of attention involved cannot safely be brushed aside or subordinated to the completion of tasks. We are called to join in a dance whose

> steps must be learned along the way, so it is important to attend and respond. Even in uncertainty, we are responsible for our steps. (Bateson, 1994, p.9)

Opportunities for Building an Arts-Based Research Community

> ...perhaps the most important consequences of any inquiry are their impact on the rules and norms that will guide future inquiry in the same community of practice. (Argyris, Putnam & Smith, 1985, p65)

At AERA 2000, in New Orleans, I presented my work in progress at an Art-Based SIG poster session. Meeting members of the arts-based SIG at AERA in was both interesting and discouraging. During the conference, I witnessed one "performance" where three presenters wearing Mardi-Gras masks pranced around the room "weaving" strips of fabric together (not knowing warp from weft), as they recited their prose. I cringed in my seat, wishing for it to end. Many people attending the session were clearly uncomfortable during and after the performance. This display, the performers admitted, had been orchestrated the previous night, in their hotel room, while they were wearing their nightgowns. As though that is supposed to comfort any of us sitting in the room, I thought. To me, it was just an excuse. The misappropriation and misunderstanding of art practices by many qualitative researchers at the conference was painful to witness. At the same time, I was also able to commiserate with some people that I felt were doing innovative work. Generally, I was left with the impression that I didn't want to associate myself with this emerging community of (mal)practitioners.

Marjo Rasanen (2002) indicated in a recent review of *The Postmodern Educator: Arts-based Inquiries and Teacher Development*, a book authored by many of the researchers involved in the arts-based research special interest group, that the voice of the visual artist was lacking and there was little grasp of the possibilities of visual images as

a means of creating knowledge. Rasanen (2002) proposed that it would be interesting to consider a similar adaptation of methodology to the visual arts that would delve into the issue of visual conceptualization. Suggesting that much work was left to be done, Rasanen, speaking as an art educator, concluded with - "I am looking forward to contributions from our field to the important discussion of 'artistic research.' " The contributions of arts-based researchers who do function as visual artists and/or have arts training such as Gary Knowles and Hedy Bach, to name a few, would be beneficial to the field.

> To claim border crossing, the mixing of high and low, cultural hybridity, as the deepest expression of a desired cultural practice within multicultural democracy means that we must dare to envision ways such freedom of movement can be experienced by everyone. (hooks, 1994, p.5)

I do not wish to stand on a pedestal and preach the virtues of maintaining the standards of "High Art". But I am still left with many unanswered questions. If arts-informed inquiry is to be considered a valid form of research in the field of education, who should be allowed to conduct these forms of inquiry? Should only those who have formal artistic training be allowed to produce arts-informed research productions? Should those who do not have the requisite skills collaborate with professional artists? Is it necessary to produce works that are of professional quality (by art world standards) in order to achieve the goals of the project? Does anything go?

I suppose the short answer to the problem is that it depends, both on the nature and the context of each research project. In most cases, I believe that it is not the end goal to produce professional works of art. However, I think many educational researchers are attempting to use artistic practice as a means to escape from the constraints of writing formal research reports - their "real" work - and to find new ways to "express

themselves." They seem to relish this new freedom. But what exactly are they expressing? They have the misguided belief that visual, dramatic or musical languages are inherently more expressive than traditional qualitative texts. It seems that for some it is a way to just let loose and play. Because they are not art practitioners, they tend to have a very superficial understanding of the media they are employing. But for a painter, a potter, a musician, a composer, a writer and an actor, making art *is* work. At times, art-making may involve playfulness, but at most times it is tedious and difficult cognitive work. And just as it takes years of practice to become a competent researcher, it takes years of practice to become a competent artist. This seems to have been overlooked by many traditional qualitative educational researchers turned artist/performers. While they need not be expert artists themselves, these educational researchers need be mindful of and recognize the technical skill, creative thinking and intellectual work required of practicing artists. As Jongeward (1997) states

> Ways of being, knowing, and doing that characterize artistic practice are not exclusive to artists per se. Certain qualities and approaches can be learned and applied by those who want to engage in artistic processes. Researchers can develop their aesthetic awareness, increasing their ability to observe, reflect, and create. This takes practice, but exercising artistic ways of knowing can extend a researcher's capacity to discover and represent meaningful patterns within complex phenomenon. (p.10)

I do realize that because arts-based inquiry is an emerging thread in educational research that time and effort must be invested in developing sound and worthwhile practices. However, it seems as though many of these educational researchers have appropriated artistic practices with little inquiry into the art-making process of artists who would consider themselves as researchers in their own right. As Wilson (2002) suggests, studio based inquiry is a familiar practice for many artists who use studio processes "as a

way of investigating, sorting, figuring out, constructing, and re-constructing meaning" (p.4). I think that few educational researchers who do not have an arts background have bothered to ask a crucial question – What can we learn about arts-based inquiry from practicing artists? At the same time, professional artists who are attempting to get funding for research projects from traditional granting agencies are finding it difficult to fit their practice into the proposal requirements. I think there has to be some opportunity for dialogue amongst artists and educationists.

> What I would like to see is some sense of there being a community of social researchers who have respect for the strengths of a variety of positions within that community, appreciating the need also to develop research skills taken from a number of genres (quantitative as well as qualitative, in fact), in much the same way as artists learn how to paint, draw, or sculpt in a number of different styles. Then, the development of one's own "style" can build on a series of principled decisions, rather than being the outcome of uninformed beliefs. Such are the ways in which a research community might work. (Seale, 1999, p. 476)

Rather than end this discussion on a negative note, I do believe that there is some hope. Since I began my thesis work, a number of advancements have been made in the arts-based/arts-informed research community. One of the encouraging developments has been the establishment of the Centre for Arts-Informed Research at the Ontario Institute for Studies in Education of the University of Toronto in April 2000. Another has been the Image and Identity Research Collective (IIRC), a project initiated by Sandra Weber from the Department of Education at Concordia University and Claudia Mitchell from the Faculty of Education at McGill University, both in Montreal. The two groups have websites that house bibliographies and other resources that are posted by their members. While I think that it is sometimes useful to engage in conversations about research with people who hold a wide range of standpoints, I recognize the importance of belonging to

the community/ies of practice of arts-based researchers. I believe that dialogues from within such communities allow us to develop richer understandings of our own work, foster our creativity and expand our notions of what can be accomplished through our research on practice.

Future Directions

Since the field of educational research is ever-expanding, the literature base has increased exponentially since I first began to work on this project. If I were to write a proposal today, the examples from which to draw upon would be far greater than they were even five years ago. While I felt compelled to continuously add to this work, I realized that I had to stop and leave some of the work for my future endeavours.

Within the framework of arts-based research, there are many avenues that I would like to explore further. Australian art educator Robyn Stewart (2001) offers a thought-provoking view of the role and praxis of practitioner-based research in the visual arts and suggests a path for inquiry. Obviously, arts-based research is more than a mere fad and I am excited about future developments in the field. The work of Bill Cope, Mary Kalantzis and Gunther Kress (2000) on *multiliteracies* is particularly interesting to me at this time and I see in it the potential to bring visual and arts-based modes of meaning-making out of the periphery and into the fold of discourse on communication.

General areas where I would focus some attention at present would include Etienne Wenger's (1998) work on learning, meaning and identity and Wenger, McDermott and Snyder's (2001) work on cultivating communities of practice as it could apply to professionals in educational settings. I would also like to pursue some of the ideas in Jamshid Gharajedaghi's (1999) work on managing "chaos and complexity". In

addition, I would look at Jonassen's expanded model of constructivist learning environments that now includes action, intention, complexity, and reflection along with context, construction, collaboration and conversation (available at http://tiger.coe.missouri.edu/~jonassen/.)

Parting Words

Before I applied to the Educational Technology program, I was considering an application to a biomedical engineering program. I was disheartened by the rift between contemporary art and the general public and wanted to put my visual arts background to use in a more genuine way. I wanted to do something that could make a difference in people's lives in a way that didn't seem to be happening through traditional means in the business of the art world. I felt that the art milieu was preaching to the converted and its patrons. I suppose that I wasn't attracted to the art game.

It was over a cup of coffee that a friend of mine spoke to me about the Ed Tech program. Upon hearing about it, I thought that it might be a good opportunity for me to make the link between my art practice and an applied field. I wanted to integrate some of the participatory design practices that I was reading about before entering the program to my art practice. In the end, it seems that I have had some opportunities to apply my art practice, or at least my visual ways of understanding, to my instructional design practice. In other ways, my art practice has been influenced by my experience in the Ed Tech program. At the very least, I have begun to learn how to quilt. In retrospect, it all seems to have been a worthwhile endeavour.

As I continue to work in the educational milieu as a resource person supporting teacher professional development in the areas of Social Science and Arts Education, I am

mindful of the *qesn.connection* design experience and the reflection process that followed. In closing, I turn to the words of John Dewey (1934) in *Art as Experience*:

> If the artist does not perfect a new vision in his process of doing, he acts mechanically and repeats some old model fixed like a blueprint in his mind... The real work of an artist is to build up an experience that is coherent in perception while moving with constant change in its development. (Dewey, 1934, 50-51)

References

Agar, M. (1999). *Keynote Address.* Advances in Qualitative Methods. Conference sponsored by the International Institute for Qualitative Methodology, University of Alberta, Edmonton, Alberta, Canada, February 18-20, 1999.

Agee, J. (2002). ''Winks upon winks'': multiple lenses on settings in qualitative educational research. *Qualitative Studies in Education, 15*(5), 569-585.

Argyris, C., Putman, R., & Smith, D. M. (1985). *Action Science: Concepts, Methods, and Skills for Research and Intervention.* San Francisco: Jossey-Bass Inc.

Bach, H. (1998). *A Visual Narrative Concerning Curriculum, Girls, Photography etc.* University of Edmonton, Edmonton, Alberta: Qual Institute Press, International Institute for Qualitative Methodology.

Ball, H.K. (2000). *Quilts as social text.* Unpublished doctoral dissertation, Wilfrid Laurier University, Canada.

Barone, T.E. (1997) Among the chosen: A collaborative educational (auto)biography. *Qualitative Inquiry, 3*(2), 222-236.

Barry, David. (1996). Artful Inquiry: A symbolic Constructivist Approach to Social Science. *Qualitative Inquiry, 2*(4), 411-438.

Bateson, M. C. (1994). *Peripheral Visions.* New York: Harper Collins.

Belenky, M. F., Clinchy, B. M., Goldberger, N. R., & Tarule, J. M. (1986). *Women's Ways of Knowing.* USA: Basic Books, Inc.

Bielec, S. (2002). *Stories of Professional Growth: Reflections on a mulitfaceted inquiry into the implementation and evaluation of a many-layered learning environment for in-service teacher education in Québec.* Unpublished M.A. thesis, Concordia University, Montreal, Quebec.

Bray, P. (1989). Faith Ringgold: artist/storyteller. *School Arts*, May 1989, pp.23-26.

Campbell-Bonar, K., & Olson, A.T. (1992). Collaborative Instructional Design as Culture-Building. *Canadian Journal of Educational Communication, 21*(2), 141-52.

Campbell, K. (1994). *Collaborative instructional design: a transformative social activity.* Unpublished doctoral dissertation, University of Alberta, Edmonton, Alberta.

Campell, K. (1995). Bringing the Personal to the Practical: Collaborative Instructional Design as Conversation. *Canadian Journal of Educational Communication, 24*(3), 227-244.

Campbell, K., & Boeglin, J.A. (2000). *Gender and Facilitator Talk in CMC.* Paper presented at EdMedia 2000. Available: http://www.atl.ualberta.ca/staff/katy/shortfacilitate2.doc

Caron, J. (2000). *Virtual insights: the design, development and evaluation of a strategy for online communication in teacher professional development.* Unpublished M.A. thesis, Concordia University, Montreal, Quebec.

Caron, J., Truesdale, C., De Simone, C., & Abrami, P. (2000). *The Role of collaborative communication technologies in the training of novice researchers: Reflections from one team's experiences using adjunctive computer-mediated-communication.* Presentation at the American Educational Research Association Annual Meeting, New Orleans, U.S.

Cerny, C. A. (1997). Quilt Ownership and Sentimental Attachments: The Structure of Memory. In Gunn, Virginia (Ed.). *Uncoverings 1997: Volume 16 of the Research Papers of the American Quilt Research Group.* (pp. 96-119). San Francisco: American Quilt Study Group.

Cilliers, P. (1998). *Complexity & Postmodernism: Understanding Complex Systems.* New York: Routledge.

Clandinin, D. J. (1999). *Arts-based Inquiry Workshop.* Advances in Qualitative Methods. Conference sponsored by the International Institute for Qualitative Methodology, University of Alberta, Edmonton, Alberta, Canada, February 18-20, 1999.

Clandinin, D. J.; Connelly, F. M. (1990). Teachers' Professional Knowledge Landscapes: Teacher Stories - Stories of Teachers - School Stories - Stories of Schools. *Educational Researcher, 25*(3), 24-30.

Clark, R. E. (1987). *Which Technology for What Purpose? The State of the Argument about Research on Learning from Media.* Paper presented at the Annual Convention of the Association for Educational Communications and Technology (Atlanta, GA, February 21-March 1, 1987).

Clark, R. E. (1989). Current Progress and Future Directions for Research in Instructional Technology. *Educational Technology Research & Development, 37*(1), 57-66.

Cole, A. L., & McIntyre, M. (1998). *Reflections on Dance Me to an Understanding of Teaching.* In the Proceedings of the Second International Conference on Self-Study of Teacher Education Practices (pp. 213-217), East Sussex, England. Self-Study of Teacher

Education Practices, Special Interest Group of the American Educational Research Association.

Cooley, G. M. (1996). *Who is This Self I'm Supposed To Be Expressing? Narrative Inquiry into the Art and Learning of Twelve Women Visual Arts Students.* Unpublished doctoral dissertation, Concordia University, Montreal, Quebec.

Cooper, P., & Buferd, N.B. (1977). *The Quilters: Women and Domestic Art.* USA: Anchor Press.

Cope, B., & Kalantzis, M. (Eds). (2000) *Multiliteracies.* London: Routledge.

Cornutt, C. (1999). *Stitching the sacred: Bound in the bundle of life.* Unpublished doctoral dissertation, St.Stephen's College, Edmonton, Alberta.

Damarin, S. K. (1991). Feminist Unthinking and Educational Technology. *Educational and Training Technology International, 28*(2), 111-119.

Davies, I. K. (1991). Instructional Development as an Art: One of the Three Faces of ID. In Hlynka, D., & Belland J.C. (Eds.). *Paradigms Regained: the uses of Illuminative, semiotic and post-modern criticism as modes of inquiry in educational technology.* (pp. 93-106). Englewood Cliffs, NJ: Educational Technology Publications.

Denzin, N. K. (1998). The Art and Politics of Interpretation. In Denzin, N.K., & Lincoln, Y.S. (Ed.). *Collecting and Interpreting Qualitative Materials.* (pp. 313-344). Thousand Oaks, California: Sage Publications Inc.

Denzin, N. K.; Lincoln, Y. S. (1998). Entering the Field of Qualitative Research. In Denzin, N.K.; Lincoln, Y.S. (Ed.). *Collecting and Interpreting Qualitative Materials.* (pp. 1-34). Thousand Oaks, California: Sage Publications Inc.

Dewey, J. (1934). *Art as Experience.* New York: Perigee Books, The Berkley Publishing Group. First Perigee printing 1980.

Doloughan, F. J. (2002). The Language of Reflective Practice in Art and Design. *Design Issues, 18*(2), 57-64.

Eisner, E. W. (1985). *The Art of Educational Evaluation : A Personal View.* London ; Philadelphia: Falmer Press.

Eisner, E. W. (1985). *The Educational Iimagination: On the Design and Evaluation of School Programs.* New York : Macmillan.

Eisner, E. W. (1997). *The Enlightened Eye: Qualitative Inquiry and the Enhancement of Educational Practice.* New York : Macmillan.

Eisner, E. W. (1997) The new frontier in qualitative research methodology. *Qualitative Inquiry, 3*(3), 259-273.

Eisner, E. W. (1999). *Keynote Address.* Advances in Qualitative Methods. Conference sponsored by the International Institute for Qualitative Methodology, University of Alberta, Edmonton, Alberta, Canada, February 18-20, 1999.

Eisner, E. W. (1999). *Arts-based Inquiry Workshop.* Advances in Qualitative Methods. Conference sponsored by the International Institute for Qualitative Methodology, University of Alberta, Edmonton, Alberta, Canada, February 18-20, 1999.

Elsley, J. H. (1990). *The Semiotics of Quilting: Discourse of the Marginalized.* Unpublished doctoral dissertation, University Of Arizona.

Elsley, J. (1995). Making Critical Connections in Quilt Scholarship. In Gunn, Virginia (Ed.). *Uncoverings 1995: Volume 16 of the Research Papers of the American Quilt Research Group.* (pp. 230-243). San Francisco: American Quilt Study Group.

Ettinger, L. F., & Hoffman, E. (1990). Quilt Making in Art Education: Toward a Participatory Curriculum Metaphor. *Art Education*, July 1990, pp.41-47.

Flannery, M. C. (2001) Quilting: A Feminist Metaphor for Scientific Inquiry. *Qualitative Inquiry, 7*(5), 628-645.

Gablik, S. (1991). *The Reenchantment of Art.* New York: Thames and Hudson.

Gannon, S. (2001). (Re)presenting the Collective Girl: A Poetic Approach to a Methodological Dilemma. *Qualitative Inquiry, 7*(6), 787-800.

Gebel, C. W. (1995). Quilts in the Final Rite of Passage: A Multicultural Study. In Gunn, Virginia (Ed.). *Uncoverings 1995: Volume 16 of the Research Papers of the American Quilt Research Group.* (pp. 197-227). San Francisco: American Quilt Study Group.

Gharajedaghi, J. (1999). *Systems Thinking: Managing Chaos and Complexity – A Platform for Designing Business Architecture.* Boston: Butterworth Heinemann.

Giroux, H. A. (1997). *Pedagogy and the Politics of Hope: Theory, Culture, and Schooling.* Boulder, Colorado: Westview Press.

Greene, M. (1988). Qualitative Research and the Uses of Literature. In Sherman R. R.; Webb, R. B. (Ed.). *Qualitative Research in Education: Focus and Methods.* (pp. 175-187). London: The Falmer Press.

Grundy, S. (2002). Big Change Questions: Is Large-Scale Educational Reform Possible? *Journal of Educational Change 3*, pp.55–62.

Gunawardena, C.N., Lowe, C. A., & Anderson, T. (1997). Analysis of a Global Online Debate and the Development of an Interaction Analysis Model for Examining Social Construction of Knowledge in Computer Conferencing. *Journal of Educational Computing Research, 17*(4), 397-431.

Harding, S. (1996). Rethinking Standpoint Epistemology: What is 'Strong Objectivity'? In Fox Keller, Evelyn, and Longino, Helen E. (eds.). *Feminism and Science* (pp. 235-248). New York: Oxford University Press.

Hardy, F. L. (1998). *Quilting: An autobiographical inquiry into African American women 'stitching together' the pieces to educate adolescent Black females in terms of kinship, voice and creativity.* Unpublished doctoral dissertation, University of South Carolina.

Hawkridge, D. (1991). Challenging Educational Technology. *Educational and Training Technology International, 28*(2), 102-110.

He, M. F. (1999). A Life-Long Inquiry Forever Flowing Between China and Canada: Crafting a Composite Auto/Biographical Narrative Method to Represent Three Chinese Women Teachers' Cultural Experience. *Journal of Critical Inquiry Into Curriculum and Instruction, 1*(2), 5-29.

Heron, J. (1996). Quality as Primacy of the Practical. *Qualitative Inquiry, 2*(1), 41-56.

Hlynka, D. (1984). E*ducational Technology: Art or Science?* Proceedings of the Conference of the Association of Media and Technology in Education in Canada Annual Conference, London, Ontario.

Hlynka, D., & Belland, J. C. (Eds.). (1991). *Paradigms regained: The uses of illuminative, semiotic and post-modem criticism as modes of inquiry in educational technology.* Englewood Cliffs, NJ: Educational Technology Publications.

Hoffman, E. (1996). The Murder Quilt: A Multimethod Investigation. In Gunn, V. (Ed.). *Uncoverings 1996: Volume 17 of the Research Papers of the American Quilt Study Group.* (pp. 157-178). San Francisco: American Quilt Study Group.

hooks, b. (1994). *Outlaw Culture: Resisting Representations*. New York: Routledge.

hooks, b. (1995) *Art on my mind : visual politics*. New York : New Press.

Jamison, P.K. (1994). The Struggle for Critical Discourse: Possibilities of Critical Theory for Educational Technology. *Educational Technology, 34*(2), 66-69.

Janesick, V. (1998). The Dance of Qualitative Research Design: Metaphor, Methodolatry, and Meaning. In Denzin, N.K., & Lincoln, Y.S. (Eds.) *Strategies of Qualitative Inquiry.* (pp. 35-55). Thousand Oaks, California: Sage Publications.

Januszewski, A. (1992). *Educational Technology: A Conceptual Study in Metaphor.* In Proceedings of Selected Research and Development Presentations at the Convention of the Association for Educational Communications and Technology and Sponsored by the Research and Theory Division.

Jonassen, D., Davidson, M., Collins, M.., Campbell, J., & Haag, B.B. (1995). Constructivism and Computer-Mediated Communication in Distance Education. *American Journal of Distance Education, 9*(2), 7-26.

Jonassen, D. H., Hennon, R. J., Ondrusek, A., Samouilova, M., Spaulding, K. L., Yueh, H. P., Li, T. C., Nouri, V., DiRocco, M.., & Birdwell, D. (1997). Certainty, determinism, and predictability in theories of instructional design: Lessons from science. *Educational Technology, 37*(1), 27-33.

Jongeward, C. (1997). Visual Portraits: Integrating Artistic Process into Qualitative Research. *Canadian Review of Art Education, 24*(2), 1-13.

Kegan, R. (1994*). In Over Our Heads: The Mental Demands of Modern Life.* Cambridge, Massachusetts: Harvard University Press.

Kegan, R., & Lahey, L. L. (2001). *How the Way We Talk Can Change the Way We Work: Seven Languages for Transformation.* San Fransisco: Jossey-Bass.

Knoetting, J. R., & Januszewski, A. (1991). The Notion of Theory and Educational Technology: Foundations for Understanding. *Educational and Training Technology International, 28*(2), 96-101.

Knowles, J. G., Neilsen, L., Cole, A. L., & Luciani, T. C.(2002) *Centre for Arts-informed Research.* Available: http://home.oise.utoronto.ca/~aresearch/

Kress, G. (2001). Design and Transformation. In Cope, B.; Kalantzis, M. (Eds.) *Multiliteracies.* (pp. 153-161). London: Routledge.

Lakoff, G., & Johnson, M. (1980). *Metaphors We Live By.* Chicago: University of Chicago Press.

Lightfoot-Lawrence, S., & Hoffman Davis, J. (1997*). The Art and Science of Portraiture.* San Francisco: Jossey-Bass Publishers.

Lippard, L. (1983). Up, Down, and Across: A New Frame for New Quilts. *The Artist & the quilt.* (pp. 32-43). London: Alfred A. Knopf, Inc.

McCarthy, T. (1994). *The Critical Theory of Jürgen Habermas*. Cambridge, Massachusetts: MIT Press.

McCotter, S. S. (2001). The Journey of a Beginning Researcher. *The Qualitative Report*, 6(2). Available: http://www.nova.edu/ssss/QR/QR6-2/mccotter.html

McGettigan, T. (1997) Uncorrected insight: Metaphor and transcendence "after truth" in qualitative inquiry. *Qualitative Inquiry*, *3*(3) pg. 366, 18 pgs.

McIntyre, M. (2000). *Garden as Phenomenon, Method and Metaphor in the Context of Health Care: An Arts Informed Life History View*. Unpublished doctoral dissertation, Ontario Institute for Studies in Education, University of Toronto.

McNiff, S. (1998). *Arts-Based Research*. Philadelphia: Jessica Kingsley Publishers.

Merrill, M. D., Drake, L., Lacy, M. J., Pratt, J., & the ID2 Research Group. (1997). *Reclaiming Instructional Design*. Available: http://www.coe.usu.edu/it/id2/reclaim.html.

Noddings, N. (1991). Stories in Dialogue: Caring and Interpersonal Reasoning. In Witherell, C.; Noddings, N. (Eds.) *Stories Lives Tell: Narrative and Dialogue in Education*. New York: Teachers College Press.

Radnofsky, M. L. (1996). Qualitative models: Visually representing complex data in an image/text balance. *Qualitative Inquiry*, *2*(4), 385-410.

Rasanen, M. (2002) The Postmodern Educator. Arts-based Inquiries and Teacher Development. *Studies in Art Education*, *43*(2), p.175, 7pgs.

Reason, P. (1998). Three Approaches to Participative Inquiry. In Denzin, N.K.; Lincoln, Y.S. (Ed.) *Strategies of Qualitative Inquiry*. (pp. 261-291). Thousand Oaks, California: Sage Publications.

Ries, R. A. (1996). Stitched in Place, Stitched in Time: Relationships of Quilts, Quiltmaking, and Landscape. In Gunn, V. (Ed.). *Uncoverings 1996: Volume 17 of the Research Papers of the American Quilt Study Group*. (pp. 125-156). San Francisco: American Quilt Study Group.

Roth, M. (1998). Of Cotton and Sunflower Fields: The Makings of The French and The American Collection. In Cameron, D. (Ed.) *Dancing at the Louvre: Faith Ringgold's French Collection and Other Story Quilts*. New York: New Museum of Contemporary Art.

Rowland, G., Fixl, A., & Yung, K. (1992) Educating the reflective designer. *Educational Technology*, *32*(12), 36-44.

Rowland, G. (1993). Designing and Instructional Design. *Educational Technology Research & Development, 41*(1), 79-91.

Salvio, P. M. (2002). Art and Romanticism in Educational Research. *Curriculum Inquiry, 32*(3), 367-378.

Schön, D. A. (1987). *Educating the Reflective Practitioner.* San Francisco: Jossey-Bass Publishers.

Schön, D. A. (1995). Knowing-In-Action: The New Scholarship Requires a New Epistemology. *Change, 27*(6), 27-34.

Schratz, M., & Walker, R. (1995). *Research as Social Change: New opportunities for Qualitative Research.* New York: Routledge.

Schubert, W. H. (1991). Teacher Lore: A Basis for Understanding Praxis. In Witherell, C.; Noddings, N. (Eds.) *Stories Lives Tell: Narrative and Dialogue in Education.* New York: Teachers College Press.

Seale, C. (1999). Quality in Qualitative Research. *Qualitative Inquiry, 5*(4), 465-478.

Senge, P., Cambron-McCabe, N., Lucas, T., Smith, B., Dutton, J., & Kleiner, A. (2000). *Schools That Learn. A Fifth Discipline Fieldbook for Educators, Parents, and Everyone Who Cares About Education.* New York: Doubleday/Currency.

Shaw, S. G. (1990). *An Examination of the Arguments Against the Naturalistic Paradigm of Research in Educational Technology and Their Implications for Current Research Practices.* Unpublished doctoral dissertation, Concordia University, Montreal.

Sommers, R.C. (1997). The Quilting Bee: A Research Metaphor. *The Qualitative Report, 3*(4) [Online]. Available: http://www.nova.edu/ssss/QR/QR3-4/sommers.html

Stake, R. (1998). Case Studies. In Denzin, N.K., Lincoln, Y.S. (Ed.) *Strategies of Qualitative Inquiry.* (pp. 86-109). Thousand Oaks, California: Sage Publications.

Steeves, P. A. (2000). *Crazy quilt: Continuity, identity and a storied school landscape in transition. A teacher's and a principal's works in progress.* Unpublished doctoral dissertation, University of Alberta, Edmonton.

Stewart, R. (2001). Practice vs Praxis: Constructing Models for Practitioner-based Research. *Text: The Journal of the Australian Association of Writing Programs, 5*(2). [Online]. Available: http://www.gu.edu.au/school/art/text/oct01/content.htm

Streibel, M. J. (1991). *Instructional Design and Human Practice: What Can We Learn from Habermas' Theory of Technical and Practical Human Interests?* Proceedings

of Selected Research Presentations at the Annual Convention of the Association for Educational Communications and Technology.

Suchman, L. (2000). *Located Accountabilities in Technology Production.* Department of Sociology, Lancaster University. Available: http://www.comp.lancs.ac.uk/sociology/soc039ls.html

Swann, C. (2002). Action Research and the Practice of Design. *Design Issues, 18*(1), 49-61.

Taylor, S. E., Klein, L. C., Lewis, B. P., Gruenewald, T. L., Gurung, R. A. R., & Updegraff, J.A. (2000). Female responses to stress: Tend-and-befriend, not fight-or-flight. *Psychological Review, 107*(3), 411-429.

Tom, A. R. (1987). Disciplined Study of the Problems of Practice: An Alternative to Craft- or Discipline-Based Educational Inquiry. *Educational Administration Quarterly, 23*(2), 7-22.

Tripp, S. D., & Bichelmeyer, B. (1990). Rapid Prototyping: An Alternative Instructional Design Strategy. *Educational Technology Research & Development, 38*(1), 31-44.

Truesdale, C. (1999). *Threaded Together.* Presentation at Advances in Qualitative Methods. Conference sponsored by the International Institute for Qualitative Methodology, University of Alberta, Edmonton, Alberta, Canada, February 18-20, 1999.

Watrin, R. (1999). Art as Research. *Canadian Review of Art Education, 26*(2), 92-100.

Webb, G. (1991). Epistemology, Learning and Educational Technology. *Educational and Training Technology International, 28*(2), 120-128.

Wenger, E. (1998*). Communities of Practice: Learning, Meaning, and Identity.* New York: Cambridge University Press.

Wenger, E., McDermott, R., & Snyder, W. M. (2002) *Cultivating Communities of Practice: A Guide to Managing Knowledge.* Boston: Harvard Business School Press. 1st Edition.

Wilson, B. G. (1995*).* Metaphors for instruction: Why we talk about learning environments. *Educational Technology, 35*(5), 25-30. Available: http://www.cudenver.edu/~bwilson/metaphor.html

Wilson, Stephen. (1996). *Art as Research.* San Francisco State University. Paper commissioned by A*R*T project, Stockholm Sweden. Available: http://userwww.sfsu.edu/~swilson/papers/artist.researcher.html

Wilson, Sylvia. (2002). Collecting Rocks, Leaves, and Seeds: A Journey Through Loss. *Educational Insights, 7*(1). Available: http://www.csci.educ.ubc.ca/publication/insights/v07n01/contextualexplorations/

Winn, W. D. (1989). Toward a Rationale and Theoretical Basis for Educational Technology. *Educational Technology Research & Development, 37*(1), 35-46.

Wolf, D. L. (1996). Situating Feminist Dilemmas in Fieldwork. In Wolf, D. L. (Ed.) *Feminist Dilemmas in Fieldwork.* (pp.1-55). Boulder, Colorado: Westview Press.

Woods, M. L. (1993). *The Canadian Quilting Revival, 1970-1990: Explaining the Meaning of Quilting in Women's Lives.* Unpublished doctoral dissertation, York University, Toronto.

Woods, P. (1996). *Researching the Art of Teaching: Ethnography for Educational Use.* London, UK: Routledge.

Yeaman, A. R. J., Knoetting, J. R., & Nichols, R. G. (1994). Critical Theory, Cultural Analysis and the Ethics of Educational Technology as Social Responsibility. *Educational Technology, 34*(2), 5-13.

Young, J. O. (2001). *Art and Knowledge*. London, UK: Routledge.